

SEVEN GREAT STORIES—All Complete

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COVER

AMAZING STORIES

APRIL 20c

World Without Women

by THORNTON AYRE

Madness On Luna

by R. R. WINTERBOTHAM

REPP ★ BINDER ★ KUMMER

AMAZING STORIES

VOLUME 13
NUMBER 4

APRIL
1936

QUICK, STIMULATING LUSTER-FOAM ACTION IN THE NEW LISTERINE TOOTH PASTE WINS MEN BY THOUSANDS!



At the bowling alleys, one man tells another there's something new in dentifrices . . . the New Listerine Tooth Paste supercharged with Luster-Foam detergent.



Out on the ski slopes, skating on the rink . . . haven't you noticed how smiles flash brighter since the New Listerine Tooth Paste was introduced?



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St. Louis, Mo.

HE THOUGHT HE WAS LICKED-THEN

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TRAINING FOR RADIO IS EASY AND I'M GETTING ALONG FAST--

SOON I CAN GET A JOB SERVING SETS-- OR IN A BROADCASTING STATION
OR INSTALLING LOUD SPEAKER SYSTEMS
THERE'S NO END TO THE GOOD JOBS FOR THE TRAINED RADIO MAN



YOU SURE KNOW RADIO--MY SET NEVER SOUNDED BETTER

THAT'S \$15 I'VE MADE THIS WEEK IN SPARE TIME



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OH BILL, IT'S WONDERFUL YOU'VE GONE AHEAD SO FAST IN RADIO.



HERE'S PROOF THAT MY TRAINING PAYS



Grad-
uat
Operator
After
Twenty
Lessons

\$10
to \$25
a Week
in Spare
Time



"When I had completed the first twenty lessons I had obtained my license as Radio Broadcast Operator and I immediately joined the staff of WMPC, where I am now Chief Operator."
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I'LL TRAIN YOU AT HOME In Your Spare Time For A GOOD RADIO JOB

Many Radio Experts Make \$30, \$50, \$75 a Week

Radio broadcasting employs engineers, operators, station managers and pay up to \$5,000 a year. Firing Radio sets in spare time pays many \$200 to \$500 a year—full time jobs with Radio jobbers, manufacturers and dealers as much as \$50, \$50, \$75 a week. Many Radio Experts open full or part time Radio sales and repair businesses. Radio manufacturers and jobbers employ testers, inspectors, foremen, engineers, servicemen, and pay up to \$6,000 a year. Automobile, police, aviation, commercial Radio, loudspeaker systems are newer fields offering good opportunities now and for the future. Television promises to open many good jobs soon. Men I trained have good jobs in these branches of Radio. Read how they got their jobs. Mail coupon.

Many Make \$5, \$10, \$15 a Week Extra
in Spare Time While Learning

The day you enroll I start sending Extra Money Job Sheets; show you how to do Radio repair jobs. Throughout your training I send alert and directions that make your spare time worth \$5—\$200 to \$500—for hundreds, while learning. I send you special Radio equipment to conduct experiments and build circuits. This 50-60 method of training makes learning at home interesting, fascinating, practical. I ALSO GIVE YOU A MODERN, PROFESSIONAL ALL-WAY, ALL-PURPOSE RADIO SET SERVING INSTRUMENT to help you make good money fixing Radios while learning and equip you for full time jobs after graduation.

Find Out What Radio Offers You

Act Today. Mail this coupon. Now for "Rich Rewards in Radio." It's free to any fellow over 18 years old. It points out Radio's spare time and full time opportunities and those coming in Television; tells about my training in Radio and Television; shows you letters from men I trained, telling what they are doing and earning. Find out what Radio offers YOU! MAIL COUPON in 5¢ envelope, or paste on a postcard—NOW!

J. E. SMITH, President, Dept. 9CM
National Radio Institute, Washington, D. C.

J. E. SMITH, President, Dept. 9CM
National Radio Institute, Washington, D. C.

Dear Mr. Smith: Without obligating me, send "Rich Rewards in Radio," which points out the opportunities in Radio and explains your 50-60 method of training men at home to become Radio Experts. (Please write plainly.)

NAME.....AGE.....

ADDRESS.....

CITY.....STATE.....



J. E. SMITH, President
National Radio Institute
Established 1914

The man who has directed the home study training of more men for Radio than any other man in America.

THIS
FREE BOOK
HAS HELPED
HUNDREDS OF
MEN MAKE
MORE MONEY



The OBSERVATORY

by THE Editor

THIS issue of AMAZING STORIES marks the 13th anniversary of science fiction's oldest and best known magazine. In April, 1926, the first copy of any magazine ever to devote its pages exclusively to science fiction appeared on the stands and was instantly a success. People who had long admired the works of Verne and Wells, Haggard and Corelli, Merritt and Verill, suddenly discovered that a discerning editor had finally realized a great future loomed for such fiction. Hugo Gernsback was that editor, and to him we owe the present popularity of this newest and now most vigorous type of imaginative writing.

Today, after thirteen years of continuous appearance, AMAZING STORIES ranks as the top-most science fiction magazine in a constantly broadening field. It is a record that we can well consider with pride, and it is a record that we intend to guard jealously in the future.

Some of the highlights of its long career are significant of its leadership. It presented A. Merritt's famous "Moon Pool," one of the most popular science fiction fantasies ever written. Edward E. Smith's acclaimed "Skylark of Space" and its equally noted sequel, "Skylark Three" appeared in its pages. It developed such writers as Ed Earl Repp, Earl Vincent, Murray Leinster, Jack Williamson, and many others. It was the only science fiction magazine to feature two covers, both front and back, in full color. It discovered such artists as Paul, and Fuqua. Finally, to climax its triumph, and as a signal indication of its leadership, it was selected by a scientific committee for inclusion in the now historic "Time Capsule" buried beneath the New York World's Fair Grounds as best indicative of the part science fiction plays in our present-day civilization.

And now, launching into the fourteenth year of its history, we present this issue with the firm conviction that it ranks along with the best we have ever presented. The cover, painted by science fiction's sensation artist, Robert Fuqua, is one of the most marvelous mechanical subjects yet devised. It illustrates the third of Thornton Ayre's now noted "webwork" stories, "World Without Women" which we confidently predict

will rank at the top of his efforts to date. As for the rest of the book—well read it for yourself. We know you'll like it.

* * *

WITH this issue, we inaugurate a new feature called the "Monthly Merit Award." In previous issues, we have been listing the stories in the order of their popularity, as determined by comments from our readers. So interesting has this monthly accounting become, that we have decided to give you a chance to really reward your favorite authors for their more worthwhile stories. Beginning with this month's selection of the "best story of the month" we will award a cash prize of \$50.00 to the author of this leading story. We will continue this policy indefinitely, until further notice.

The length of the story will have no part in the selection, even a short-short standing an equal chance of winning the prize. There are no rules, other than that the story must be the one selected by the most readers as the best story of the month.

Here is your chance, you readers who feel that a truly good story should be recognized, to give your favorite author substantial recognition of the value of his work. Don't fail to write each month and let the editors know which story you like best.

* * *

AT this time the editors of this magazine would like to suggest that our readers watch AMAZING STORIES carefully for a sensational announcement. Next month we will publish complete information about a new development in science fiction which will be the most important single announcement made in recent years. Don't fail to read the May issue of AMAZING STORIES for details.

* * *

DR. WALTER R. MILES, psychologist at Yale, has made the amazing discovery that eyes have an electrical charge, and are literally, "living batteries." He has proven that they possess both positive and negative charges.

By using small pieces of foil, placed above and below the eyes of his fellow experimenters, Dr. (Continued on page 139)

APRIL
1939

VOLUME 13
NUMBER 4

AMAZING STORIES

Contents

STORIES

- WORLD WITHOUT WOMEN.....**by Thornton Ayre..... 6
Fighting to avert man's extinction, he created a synthetic woman, but when he tried to make it live...
- MADNESS ON LUNA.....**by R. R. Winterbotham..... 32
To set foot on Lunar soil meant death, but Verne Scott thought he knew how to solve the mystery
- THE INVISIBLE INVASION.....**by Frederic Arnold Kummer, Jr. 40
London was being destroyed from within, and somehow the solution lay in a carved meerschaum pipe
- THE DEADLY PAINT OF HARLEY GALE....**by Ed Earl Repp..... 54
Harley Gale accepted a challenge, and overnight he painted the Empire State—the color of death!
- THE MARTIAN AVENGER.....**by Polton Cross..... 76
Bred into the Martian baby was a message of hate, and Lance Halworthy gave it life—and power!
- THE FLAME FROM NOWHERE.....**by Eando Binder..... 88
Dan Nelson lived a lifetime in a day, battling the unquenchable fire from the depths of space.
- REVOLUTION OF VENUS.....**by Bradner Buckner..... 100
Might was right in Hilda Fonda, and for Kent Stafford it had a special death—a deadly bit of metal.

FEATURES

- The Observatory.....** 4 **Meet The Authors.....** 122
- A New Race of People?.....** 31 **Discussions.....** 126
- Riddles of Science.....** 53 **Monthly Merit Award.....** 137
- A Modern "Lost World".....** 119 **Correspondence Corner.....** 138
- Science Quiz.....** 120 **Future Sky Fighter.....** 141
- Questions and Answers.....** 121 **Forecast.....** 142

Cover painting by Robert Fuqua, depicting a scene in *World Without Women*

Illustrations by Julian S. Krupa
Back cover by H. W. McCauley

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Member of the Audit Bureau of Circulations

William B. Ziff, Publisher, B. G. Davis, Editor, Raymond A. Palmer, Managing Editor, Herman R. Bollis, Art Director

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The names of all characters that are used in short stories, serials and semi-fiction articles that deal with types are fictitious. Use of a name which is the same as that of any living person is accidental.

AMAZING
STORIES
APRIL 1939

Published monthly by ZIFF-DAVIS PUBLISHING COMPANY at 608 South Dearborn Street, Chicago, Ill. New York Office, 381 Fourth Avenue, New York City. Entered as second class matter October 6, 1938, at the Post Office, Chicago, Illinois, under the act of March 3rd, 1879. Subscription: \$2.40 a year (12 issues); Canada and Foreign, \$3.15

Volume XIII
Number 4



The figure in the case remained motionless—lifeless. "I—I've failed!" Perry groaned in utter defeat



WORLD Without WOMEN

By Thornton Ayre

Perry Mills patterned a synthetic body in Kay Wanclyffe's image. But he could not make it live. Extinction faced mankind. Then, incredibly, the lifeless body spoke . . .

CHAPTER I

"We Are Facing Extinction . . ."

A SOLEMN HUSH brooded over the mighty Chamber of Deputies in the new White House at Washington. The innumerable seats, rising tier on tier to the granite walls, were lined with grave, anxious faces. Men's faces, of every age and hue. All eyes were directed toward the small rectangle of dais in the center of the vast place.

A voice boomed out suddenly over concealed loudspeakers.

"Gentlemen, Kindon Gregory, President of the Americas!"

There was a shuffle and scrape of countless feet as everybody rose. Then seats were resumed as the small, compact figure of the President arrived at the dais. He surveyed the radio television transmitters around him, then gazed round on the great assembly.

"Gentlemen . . ."

His voice was somber and colorless, so different from the fierce, commanding tone he had used at his election campaign in 2016, four years previous. Now it was the voice of a man who has little left for which to live.

"Gentlemen—deputies of every science from every land. I need hardly elaborate the circumstances of the terrible crisis that faces us. Unless science can master the present conditions, humanity and all life as we know it must pass from the earth! At the very most, human beings cannot be present for much longer than eighty years. All of us have experienced the biting sting of tragedy, have seen our womenfolk die around us, subtly and mysteriously, from an unknown malady which medical science utterly failed to diagnose.

"In 2015 we had a happy, prosperous

world. War had been banished; prosperity reigned everywhere. Then—if I may be permitted this harrassing resume—in the Christmas period of that year, the blight started. Women, young and old, rich and poor, began to die. Not only women, but everything female in every branch of life. The blight was all inclusive, was in every country almost simultaneously. Wherever a female child was born it died almost instantly, despite all efforts to keep it alive, until . . . Until by the end of 2018, two years ago, there was not a woman left in the world!”

The President's voice was quiet for a moment. He gripped the sides of his desk with obvious emotion. When he spoke again his voice was suddenly desperate.

“Gentlemen! Men of science the world over, wherever my voice reaches you, I beg of you to use your abilities to master this horrible thing which has come upon us! Maybe it is selfish to regard a woman as a necessity to the continuance of life, but I do state that in cold truth. Throwing aside all love and natural human longings, the cold biological fact remains that without women in the world mankind must perish. And, my friends, we *shall* perish unless some woman can be found who has escaped the trouble. That, I know, is utterly improbable. The earth has apparently been swept clean. If we fail in that search there is only one other course—Synthesis!”

“Synthetic life?” cried a voice from the back of the hall.

The President shrugged slender shoulders. “What else? I appeal to you scientists, particularly the biochemists, to give every ounce of your knowledge to the problem. The natural means of creating life has gone—there remains only synthetic womanhood. If not that, then synthetic life itself, either

man or woman. But obviously a synthetic woman is simpler and demands less material. Even one alone can start a race once more. That has got to be done. If not, humanity is finished!”

“But synthetic life is impossible!” cried Jonathan Hale, the famous British chemist.

“Nothing,” answered the President quietly, “is impossible. To science least of all. Gentlemen, I urge you—”

PERRY MILLS reached out a languid hand and switched off the small televizor by his bedside. The speech and face of President Gregory disappeared.

For a long time Perry lay in silence, listening to the faint, drowsy sounds of the great New York nursing home. Occasional coughs, the sound of rubber soled feet. Men in white drifting to and fro. Men, men, men. . . . Everywhere men! Perry sighed deeply, lay staring up at the white enameled roof.

“Queer,” he muttered, “to pull a guy back from double pneumonia when the human race is finished anyway. If they haven't eliminated pneumonia germs after all this time they've got slim hopes of producing synthesis!”

He closed his eyes, only to shortly open them again at the awareness of somebody near to him. He beheld a neatly dressed young man with close cropped black hair and keen gray eyes, carrying a pile of magazines under his arm.

“Hi'ya, Perry!” he laughed, saluting. “Any room for Bill Tanner around here?”

“I'll say!” Perry exclaimed eagerly, sitting up. “I can just do with some company . . .” He glanced at the magazines. “What? More stuff to read?”

Tanner shrugged as he sat down. “Afraid they're pretty old—four years

old, in fact. All sorts of periodicals. I had a clean out of my cupboards yesterday and thought maybe you'd like to read through them until you get out of this place."

"Be out in another week, so the doctor says. . . . Thanks, old man; I'll be glad to have them." Perry stopped and frowned, his blue eyes thoughtful. "Hear the President's speech?" he asked briefly.

"Most of it. It was relayed to the street televisions. . . . I guess things look pretty bad, Perry. Since woman vanished from the earth things have gone to pot. Only to be expected, of course."

There was a moody silence for a moment, then Tanner spoke again.

"You know, Perry, I don't see why you can't do something about all this. You're a first class biochemist. You've got all the degrees and you've got the money, too. If you hadn't been ass enough to get pneumonia through making a tomfool experiment in the rain, I guess you'd have been invited to the Chamber of Deputies."

"Mebbe," Perry shrugged moodily. "I'm not so hot."

"Oh, snap out of it, Perry. This is no time for false modesty. Some of your chemical inventions have advanced science a hundred years, and you know it. Sure, you don't like publicity, and keep in the background for that very reason, but more things have come out of that laboratory of yours than all the concentrated efforts of fifty bearded experts. Look at the money you've piled up! Governments don't pay huge sums like that unless you've given them something worth while."

"So what? Oh, I get it! You're suggesting I should turn my attention to synthesis of life?"

"Sure I am. You've got the brains to solve it if anybody has."

"Perhaps so, but synthesis is some-

thing just beyond science. There's a missing element which makes all the difference between inert clay and living, breathing humanity. . . . Oh, I admit I've thought about the idea as I've lain here convalescing. I've read several medical textbooks on human structure, have made a pretty thorough study of the stuff that makes up a human being, but. . . . No, Bill! I guess synthesis of life is right outside the pale."

Tanner sighed and got slowly to his feet. "Well, you're the scientist, not me. I'm sure you could do it if you only had some incentive." He paused and glanced at his watch. "Sorry I can't stay any longer, but I haven't your ability to be independent. The Bureau of Statistics don't like their experts to be late, you know. See you again."

"Okel And thanks for the magazines." Perry waved a cordial hand and watched Tanner's lithe form disappear down the long ward.

FOR a long time he lay pondering, then picked up the topmost magazine and glanced idly through it.

Being an issue of the pre-Blight era, its social pages were filled with color photographs of men and women celebrities. Somehow, Perry found it gave him a queer sensation to gaze on women of all ages and types. They had been rather attractive, at that, had done an enormous lot to make the world decorative—far different from this new coldly masculine, harshly designed world of men alone.

He turned the page of social celebrities and found a full length color portrait of a young and decidedly good looking girl staring back at him. Her eyes were very blue, her hair the color of well ripened corn. Her dress of pale blue with pink whatnots and rib-

bons was a masterpiece of feminine allure.

Perry's gaze dropped to the caption under the picture.

Miss Kay Wanclice, daughter of Dr. Elroid Wanclice, the famous scientist and engineer. Kay will be twenty-one next month. Congratulations, Kay!

"Oh boy, oh boy!" Perry whistled, staring at the picture again. "What a girl! Elroid Wanclice, eh? Seem to have heard of him somewhere in connection with a rare metal. If only . . ."

"Synthesis . . ." he breathed, eyes closed. "Make a woman. . . If only I had the incentive! Carbohydrates, phosphorus, lime—Hell! Incentive! Who says I haven't got incentive?" He sat up with a jerk and snatched the magazine again. "By all the saints, I have!" he whispered. "If it *can* be done, I have the model right here. Get all the dope I can concerning her. Yeah, that's it! Make a woman! Just like this one. One of the nicest girls I've ever seen! It's possible, perhaps—"

He stared into space, tugging at his underlip. Already his keen brain was racing far ahead, hurdling natural difficulties. His whole horizon was filled with a view of Kay Wanclice. Kay, the inspiration. A girl he had never known or seen in the flesh, now dead.

An hour later Perry was still staring into space, was positively rude when the male nurse came around and ordered him to lie down.

CHAPTER II

"I Have Created Her Body . . ."

TANNER was agreeably astonished when next day he received a telephone call from the nursing home and heard Perry's clipped, eager voice at

the other end of the wire.

"Say, Bill, I've been thinking over what you said—and I guess there is something in your ideas at that. Listen! You're in the Bureau of Statistics: can you get me all possible details on a girl named Kay Wanclice, daughter of Elroid Wanclice, scientist? She'd have been twenty-one in July, 2016. I think she lived in New York here. I want her exact age as it would be today, her dimensions, coloring, every darned thing about her. A complete record of her entire life, her medical record, and all photos you happen to have. According to the new world census law of 2007 there ought to be as much detail about her and her family as there used to be about wanted criminals. Even to the finger prints. Get it?"

"All the facts will certainly be tabulated—everybody's are," Tanner answered. "But what the devil do you want it all for?"

"I think I'll make a woman. . . . Tell you more later. How long will it take you to rush through those details?"

"I'll ring you back in an hour. That do?"

"O.K."

In the intervening hour Perry occupied himself making a skeletal design of Kay Wanclice's head and face from her photograph. Then the phone rang again.

"Perry? Here's the low down. Kay Wanclice would now be twenty-five years old—July 6. She didn't die from the Blight. Her body, and that of her father and mother, were found dead in rather curious circumstances a year before the Blight came. The bodies were discovered in the private surgery of Doctor Danver Hall, the famous American neurologist. He too was dead. All four were buried in the Fourth Precinct Cemetery. Since all relatives of the Wanclice's were women there are of

course no living witnesses to explain matters."

"Hmmm . . ." Perry grunted. "Any photographs or records?"

"Sure. There are six good photographs you can have, some from the family possessions and others taken professionally for census reasons. I'll send them around if you want."

"Of course I want!" Perry snorted. "Bring them around the moment you get the chance. And thanks."

BUT it was next morning before Tanner found the time to come around; and then Perry became so absorbed in the prints it was impossible to get a word out of him. Tanner gave it up at length and departed. Thereafter, excess of work kept him busy for several days. The next time he met up with Perry he found him in his old laboratory once more, a tattered smock covering his spare form, a pipe clenched resolutely between his teeth.

Denham, Perry's old retainer, closed the laboratory door gently. Tanner stood staring across at his friend over a wilderness of benches and bottles, wrinkling his nose in disfavor at the variety of unsavory odors curling round him. Slowly he walked forward, stared down into an oblong bath of highly polished metal, at the bottom of which floated and stirred a mass of pungent compounds.

Perry's only greeting was an abstracted nod. His eyes were on the bath. Facing it, on the opposite wall, was a tremendous life size chart of a woman, fenced around with all available enlarged photographs of Kay Wancliffe.

"So you're back on the job?" Tanner asked at length. "What this time? What was there about Kay Wancliffe that suddenly turned you into a dynamo?"

"Everything," Perry answered briefly. "That's the second Kay Wan-

cliffe in the bath there."

"Huh?" Tanner stared blankly at the weird mess.

"The world wants synthetic life," Perry went on slowly, his brows down. "It wants a woman—the first of a race of synthetic women. I'm going to do my best to fill that need. The first woman will be the image of Kay Wancliffe. If I were the marrying sort, Bill, she's the one I'd go for. Queer, perhaps, to fall in love with a photograph, but there it is. She's the posthumous inspiration of my work. . . . Even as a sculptor models from real life, so I am modeling from a photo and records. Every measurement will be identical with Kay Wancliffe. Then, maybe, I can make the model live. . . ."

He became silent, hands thrust in his smock pockets. After a while he spoke.

"This stuff in the bath is only the beginning—it's a mixture of glycerols, albumens, hydrocarbons, sugars, and so forth, all the elements that go to make up a human being. These compounds have to be formed, moulded cell by cell. Every scrap has to be syntheticized, until at last comes the time when I must try and infuse life into the whole. There will lie the biggest problem."

"How long do you imagine it's going to take you?" Tanner asked quietly.

"How can I say? Many months, certainly. Not a single detail must be overlooked. In order to live, everything about this model must be correct. What does it matter if it takes me a lifetime, so long as I succeed in the end?"

Tanner remained silent. The last thing he could picture was the mess in the back turning into a desirable woman. That was where his limitation came in. He had not the vivid imagination or the genius of Perry Mills. To Perry, the end of the experiment was known while he was still at the beginning.

WHILE the scientists and political leaders of the world wrangled and argued and experimented, Perry Mills worked. Day in, day out, ceaselessly, regardless of everything—through the weeks and the months. He never left his home, frequently toiled all night, deaf to all the exhortations of both his retainer and Tanner to give himself a rest or take some exercise . . . No, he'd have none of that! More important things to do than take exercise.

A year passed. Perry's terrific mental endeavors kept him in good health. He was as lean and energetic as ever, clear minded, steeped in the profound technique of his task. Tanner, visiting him constantly, keeping all he knew entirely to himself to prevent a flood of newshounds, had seen that original mess of compounds undergo amazing changes.

Little by little, Perry had built up masses of bone, muscle and nerve tissue, forming them under the influence of needle fine electric radiations. Cell by cell he had arranged the whole incredible structure, producing the outline first, then gradually shifting and positioning the syntheticized parts into their right formations. He had linked up the nerves, socketed the joints, created the flesh. The first mass of elements had formed at last into the recognizable shape of a woman.

He labored for another six months, working with ever increasing skill as his knowledge expanded. He made wax moulds and created synthetic flesh impressions from them. He spent days on the fingers, on the hair roots, precisioning every detail—until at last he had produced a perfect female body, now removed to a glass case, a body that had everything, except eyes.

Tanner surveyed the alabaster whiteness of the pseudo-girl in the tube, then turned to look at Perry. The young

chemist's face was set and resolute, a little more lined than at first, more than a trifle anxious.

"Certainly she's Kay Wancliffe over again," Tanner muttered. "Those empty eye sockets aren't so good. But everything else — The hair even! You've made that grow, anyhow."

"Simple," Perry growled. "Hair is only vegetable growth, anyway, and the class of pigment makes the color. I simply stimulated vegetable compounds with mitogenetic radiations. Any fool could do that. A gooseberry does it naturally, anyway."

He eyed the flawless body in silence for a while. "The eyes are hardest," he muttered. "Iris and pupil, retina and cornea, nerve connections. Going to be difficult—but I'll master it finally."

HE did—three months later. Tanner found himself summoned urgently from the Bureau of Statistics on the evening of December 7, 2020, to see the finished work.

As usual, he found Perry in the laboratory, gazing thoughtfully at the silent figure in the case. The eyelids were closed, but they had beneath them the soft roundness of eyeballs. Perry raised one of the lids gently, revealed a flawless but vacant blue eye.

"See?" he smiled. "I made it! I used a photo iris diaphragm for my example and used contractor muscles sensitive to light. I constructed two eyes identical to those of a natural human being." He rubbed his slender hands slowly together. "I sent for you, Bill, because I want you to be the sole witness when I infuse life into this lovely creature. I'm all set to go."

"You really believe you *can* create life?" Tanner asked quickly.

Perry slowly nodded, waved his hand to the massive electrical machines banked around him.

"This apparatus, I hope, will duplicate the effects that must have been present at the beginning of the world when the earth was born. It was chemical fusion; science admits that much. Life could only have happened through one agency—solar radiation. Life is basically carbon, mixed with the right proportions of hydrogen, oxygen, nitrogen, and so forth, such as we have here in this completed figure. At the dawn of time all those elements existed, but what changed them from merely atoms to atoms *plus* life? Only one thing, as scientists like Jeans, Eddington, and others have freely admitted—a radiation which was present at the dawn of the world but which was finally lost as the sun cooled and grew older.

"I have worked on those lines, studying solar phenomena and getting all possible clues and observations from the major observatories of the world. I have calculated backward to the sun's temperature at the earth's time of birth. Without doubt, there were several ultra short radiations in being at that time, produced by the great heat. . ."

Perry pointed to the machines again, grouped at either end of the case in which the body lay.

"When I release those machines," he said slowly, "a tremendous electric current will completely shatter a piece of iron in a specially constructed chamber. Iron is one of the basic elements of the universe. I shall release its atomic energy, but before that energy can escape it will go through converting chambers which will alter its wavelength to the one I require. That radiation wavelength will pass clean through this case and, I believe, will infuse inert atoms with that one basic electric reaction which we call life!"

Perry stood regarding Tanner eagerly, glanced once more at the motionless, exquisite being he had at last com-

pleted, then he seized the master switch of his bank of electric machinery and slammed it home.

SPARKS flared, dynamos whined. Amazing globes began to shift up and down on smooth pistons. Tubes flared through all the colors of the spectrum.

Tanner stood waiting tensely. Perry, a demon of activity, played like a pianist over a row of controlling keys, finished up with jamming home another switch and turning simultaneously to stare at the case. At either end of it massive electrodes glowed with the surge of power.

Seconds . . . Minutes . . . Perspiration rolled down Perry's face with the intensity of his emotion.

The figure in the case remained motionless.

"It's got to work!" Perry breathed. "It's got to!"

One minute—Three. Five . . . No motion. Only the glowing electrodes and whining dynamos. Very slowly Perry reached out and cut off the power. Silence fell, an awful silence in which Perry's hard breathing sounded unnaturally loud.

"I—I failed," he whispered dully. "I failed! I was wrong! My God, after all my work—" He looked round in bewilderment, his face ashy white in the glare of lights.

"Suppose—" Tanner began, but Perry cut him short with a shout of fury.

"Perhaps nothing!" he yelled. "Don't start making suggestions because I don't want 'em! Get out!"

"Now listen, Perry, take it easy—"

"Don't tell me what to do, Bill. Get out, before I do something I might regret!"

"O. K." Tanner nodded quietly. He could see his friend was at the breaking

point with despair. Silently he left the laboratory.

Perry stared at the closed door, breathed hard, then hardly conscious of what he was doing he turned moodily and started to pace up and down with his hands locked behind him. Once or twice he gazed at the motionless form in the case, hesitated over tearing it out and destroying it with acids. Finally he thought better of it, went to the window and stared out on the calm beauty of the winter night. The stars, the rising moon in flecks of soft cloud.

"Where *did* I go wrong?" he muttered fiercely. "Where?"

He turned abruptly and snapped a switch. The lights went out. He sat down heavily in his well padded chair by the window and gave himself up to thought. With external impressions shut off and only the ghostly shadows for company he felt better able to concentrate.

But after a time he could feel reaction setting in. The crushing disappointment of it all. A drowsiness was upon him. His thoughts would not focus properly.

CHAPTER III

"I Am Not Alive . . ."

PERRY jumped suddenly, and guiltily realized he must have fallen asleep. The laboratory was still unlighted, but the beams of the newly risen full moon were shining strongly through the window, glinting back from machines and glasswork, bathing the case of the synthetic woman in a silvery glow.

Perry yawned and stretched himself. His head felt clearer for the nap. Slowly he got to his feet, then paused in his forward movement and frowned. An alien sound was in the laboratory—a gentle scraping, tapping noise. Or so it sounded to be at first; gradually he

realized it was a voice trying very hard to speak and croaking in the doing.

In spite of himself Perry felt his knees tremble. Though it was insane, incredible, there remained one stupefying fact—the sound was coming from the open end of the tube where lay the head of the synthetic woman! She was whispering, apparently to herself.

"If you hear me, come! If you hear me, come! Listen! Whoever you are!"

Perry came back to himself with a bang, switched on the lights. The woman failed to move in the slightest as the glare smote down on her. She remained motionless, her eyes closed. Perry stared down at her in blank bewilderment. Her lips were moving, her tongue was passing up and down between her teeth. He clamped a hand over her heart. It was beating with the steady rhythm of life! And yet despite her steady breathing not a trace of color came into her face. There seemed to be no circulation worth mentioning. Alive, yet dead? Trying to talk?

Perry tried hard to think straight, use the routine science demanded. He whirled round and snatched up a thermometer, jabbed it under her tongue; instantly it was pushed out again, smashed on the concrete floor. He took another one, thrust it in her armpit. It registered room temperature, nothing more. She was not alive!

"What the hell. . ." Perry groaned, clutching his hair, then he pulled the thermometer away and stooped closer to try and catch the incoherent babblings from that mouth. He fancied they were English words. Impossible, of course, but—

"Doesn't make sense!" he muttered, driving his fist into his palm. "The electric current could not possibly have a latent effect. Either she would have come alive at that moment, or never. When the current stopped she ought to

have remained inert clay."

"Whoever you are, listen!"

THERE was no denying those words.

They were pure English, and the living-dead girl had uttered them. Perry leaned forward in open mouthed amazement. His creation seemed suddenly to have got her tongue disentangled.

"You cannot be expected to understand the full implication of all this. I pray you know the English language and understand what I am saying. I can only assume you have made an image of Kay Wanc liffe. I'm trying to tell you that although. . . No, I'll try another way. I am Kay Wanc liffe, and I am in a grim predicament; so are my father and mother who are with me. If indeed you have made an image of me, please understand that this image is not alive, is only a carrier for my thoughts."

"Huh?" Perry stared fixedly as the low tones stopped for a moment. He lifted an eyelid; the eye beneath was glassy and lifeless.

"For various reasons I am not able to give the full facts now," she resumed suddenly. "You have it in your hands to save three people from a desperate plight, and the world from certain doom. At least, so far as the death of humanity is concerned.

"Womankind was deliberately destroyed. Why, and how, I hope you will later learn. At the moment I can only ask that you do whatever this carrier of my thoughts tells you to. Obey implicitly!"

Perry nodded dumbly. This listening to a voice from a girl who had never lived—the voice of a girl who had been buried for four years! — was more than he could possibly figure out.

"You admit," she resumed, "that the mind controls the body, and that the brain is the most sensitive organism for

the conduction of thought? I will assume you do admit that. Through various means I can't now explain, mind force is enormously amplified and operates through this body for only one reason, because its brain is identical to my own. It so happens that you must have made a perfect model of me, that's why it responds so well. I presume it is a model. I cannot conceive of anything else. If I am right, I believe vocal organs will respond to my thoughts and enable me to speak to you.

"After all, is it so amazing that you have made a perfect model? Did not Jeans say long ago that six monkeys, given sufficient time, would be able to type off a Shakespeare sonnet?*" The law of chance, which in this case has operated first time. Not coincidence; science does not admit of coincidence. You must have made an exact model, even down to the right number of brain cells. I never expected anything so wonderful. I shall speak to you again soon. For now, I must say goodbye."

Perry hesitated over saying something, then stared blankly as the girl's lips ceased to move. Mechanically he felt her heart; it had stopped. Her breathing had ceased. The unknown motivating life force behind her had been removed.

"I can't believe it," he whispered. "It's uncanny! Kay Wanc liffe is dead and buried. This girl does not really live. . ."

HE sunk his chin on his chest, moved slowly across the laboratory. In the course of his amblings he came into the glow of moonlight still streaming through the window. He looked up suddenly, gazed out on the serene, silvery orb.

"I wonder. . ." he breathed. "Is it possible? When the moonlight fell on

* "The Mysterious Universe."

that model it became alive! The moonlight alone could not do it, but it at least proves the moon and earth were in a direct line. . . But, can Kay Wycliffe be on the moon?"

He shook his head in bewilderment.

"What am I saying? How can she be? She's dead and buried. She could not throw her mind over 240,000 miles. Buried," he repeated slowly. "Sure the bodies were buried, all three of them, but what did those bodies contain? Suppose. . ."

He swung round and snatched up the telephone. In a moment he had awakened Bill Tanner from heavy slumber at his home.

"Well? What?" Tanner growled sleepily.

"Shut up, and listen," Perry said briefly, then he shot off the whole story with a bewildering disregard for details. Poor Tanner was obviously too baffled to speak straight. He could only gulp and ask what he could do about it.

"Plenty," Perry answered crisply. "You've got one of those new Z-ray machines at your Bureau, haven't you? One of those things that emit a ray capable of penetrating earth but which kicks back when it comes to flesh and blood structure?"

"Sure. We use it for examining buried people instead of the old messy business of exhumation. Why?"

"At the earliest possible moment I want you to examine the graves of Kay Wycliffe and her parents, get me a report on their bodies. They've been buried a long time, but in those new type lead coffins there'll still be some traces of structure left. I believe." Perry finished absently, "that they were buried without their brains! Kay, in particular, had no brains."

"Huh, she wasn't the only one!" Tanner grunted; then he sighed. "Well, I think you're screwy, but I'll do it."

"Only by being buried without her brain could Kay Wycliffe be alive right now," Perry snapped. "Quit making cracks and get busy the moment you get the chance. . . Oh, sorry to have disturbed you. Good night!"

He put the telephone down thoughtfully.

"If I'm right, how the devil did Kay get to the moon without her body?" he muttered. "How does she. . . ? Oh, hell, what's the use. I'll go nuts if I think round a prop much longer."

He gave the motionless body a final glance, switched off the lights and left the laboratory. In an hour he was asleep.

TANNER wasted no time following out Perry's request. Though work prevented him from coming personally the following morning, he sent the proofed plates by special messenger.

The moment Perry studied them, blurred in details though they were from the inevitable decomposition of the bodies concerned, he knew his shot in the dark had been right. There were no brains in those three bodies! For some reason they had been removed, and the only man who could ever have explained it, Doctor Danver Hall, was also dead.

"Do you hear me? Are you there?"

Perry swung round as the soft voice reached his ears. In a moment he had put the plates down and hurried to the side of the girl in the case. She was ephemerally alive once again.

"I shall have to speak quickly. I have only time for absolute details, nothing more. Get a notebook, please. . . Now, I am going to reveal to you the secret of space travel. I place you on your honor as a scientist not to reveal the secret to anybody else until given permission. It is still the secret of its original discoverer, Elroid Wan-

cliffe, my father. You are ready?"

Perry nodded automatically, began to scribble in shorthand and scientific jargon as the girl spoke steadily, her eyes closed and body motionless.

Perry's wonder increased as he wrote. The space traveling system revealed to him was utterly unlike anything he had expected. No suggestion of rocket control entered into it. Instead there was described to him a system of screens, exactly covering one half of a theoretical ship. The screens were ordinary beryllium steel, but the ship itself was composed of a highly radioactive metal, Element 105, which in itself was totally impervious to gravitational attraction, even as glass is transparent to light.

At a given temperature in manufacture the stuff went through a mutation, flew away from normal sources of attraction instead of toward them, and could only be prevented from so doing by the insertion of a beryllium shield immediately beneath it. *Wanthorium*, the girl called the stuff—made from elements which any advanced chemist could easily compile. The essential secret lay in the temperature ranges.

"You will construct a ship to suit yourself for size," the girl concluded. "See that it has weapons of defense, and also that it is equipped with all possible surgical instruments, such as you must have used to make your model. When you are finally ready you will leave for the moon.

"When you reach the moon give a radio signal; I will pick it up. Also bring with you the model, through which I will direct your actions. How we got to the moon you'll discover later; it is too involved to explain now. I can only speak to you when the moon is at the full. Whether it be on your side of the earth or not is of no consequence. The radiations I am using for thought transmission pass through the solid

mass of the earth.

"I shall not be able to speak again until the next full moon—and not then unless matters here are very favorable. I am surrounded by dangers. One thing I beg of you—hurry! Hurry!"

The girl's lips closed. Again she was lifeless clay.

CHAPTER IV

"We Have Reached the Moon . . ."

THE GIRL did not speak again. She lay passive through the weeks as Perry manufactured a sample piece of *wanthorium* and found it did all that was claimed of it. At the stated temperature in its cooling it vanished from its sandbed, smashed a hole through the roof of the laboratory and disappeared into space, destined to travel the eternal deeps forever.

Tanner came at intervals, said little, stood watching the workmen Perry had engaged as they labored on the skeleton of a metal ship in a newly added section to the big laboratory. Perry had little time to talk; his explanations were brief in the extreme. Neither did he pay any attention to the screamings of country leaders as they demanded action by the scientists to save the human race.

Time and again President Gregory had spoken to the world, usually giving the same speech as on the first occasion—but each time now it was charged with increasing anxiety. As the death rate went steadily on, as men the world over died from either natural or violent causes, the expectation of life for the human race correspondingly shortened. Science had confessed itself beaten, knew nothing of the lone biochemist struggling with might and main to sort the mystery out.

Exactly six weeks after the girl's initial instructions the vessel was finished. The workmen had constructed the ske-

leton only; Perry himself manufactured and fitted the *wanthorium* plates, placing them in position before it reached its critical temperature and afterward covering it with beryllium shields. In this way he had no difficulty in handling it.

"When do you figure on going?" Tanner asked, surveying the gleaming ovoid in the floodlights. He had braved a particularly beastly winter night to come over and see the thing at Perry's request.

"Right now," Perry answered briefly. "Everything's ready. The girl's inside. On a hunch I've put some clothes on her; my own. I'm loaded up with provisions, guns, surgical instruments. I've given Denham an indefinite holiday, so. . ." He shrugged. "Only the hop to be made, I guess."

"Wish I was coming with you," Tanner sighed enviously.

"What's stopping you?"

"My work, of course. I can't just walk out and do as I like."

Perry smiled twistedly. "Try a bit of logic, old man. In a little while men will start fighting each other when it is fully realized—as far as they know anyhow—that humanity is finished. Men always like an excuse for a fight; they're a vile breed you know. Ordinary business like yours will go to pot. Only the toughest will survive to the end. You'd do much better to take a chance and come with me."

Tanner pondered for a few moments, then he suddenly nodded.

"O. K., I will. I don't need much persuading. I've made private arrangements for a vacation, anyway. Let's be going."

HE LED the way through the air-lock into the vessel's small and compact interior, stood regarding the roughly clothed girl on the specially de-

signed bed by the curved wall. Perry stopped only long enough to shift the switch that opened the workshop roof, cut out the lights, then he came into the control room and slammed home the heavy operculum.

He settled down before the switch-board.

"Grab yourself a seat and strap yourself into it," he ordered curtly. "This *wanthorium* stuff is mighty powerful and achieves a terrific acceleration. Once we're clear of these storm clouds the moon will be visible. She's at the full again, anyway."

Tanner nodded and seated himself. Then he felt as though the bottom had dropped out of everything as Perry closed the switch actuating the beryllium shields. The moment the shields moved to the top of the ship the *wanthorium* exerted its weird powers, lifted the ship like a feather and hurled it into the night at terrifying speed. The sensation was one of headlong, terrible falling into nothing.

Perry gave a gasp and struggled mightily with his weighted hands to close the shield switches. Tanner was held motionless, his heart laboring mightily, the room swimming before his eyes. He fought desperately for breath, reeled into darkness.

THE stinging taste of brandy was in his mouth as he recovered consciousness to find Perry bending over him. Perry himself was white and strained, had obviously been through considerable physical stress.

"Sorry, old man," he panted, as Tanner got unsteadily to his feet. "I underestimated the power of *wanthorium*. It gets up speed at an incredible pace. I've cut it down now so that our acceleration is equal to earth gravity. We're O. K. now."

"Thank Heaven for that!" Tanner

rubbed his aching head, slowly moved to the outlook port and stared outside. In a moment Perry had joined him.

Right ahead of them, seeming far larger than ever before, was the full moon, bulging and globular, shedding its brilliant silver light into the utter black of star ridden space. Tanner narrowed his eyes and stared at it.

"Funny thing about those bright streaks and rays," Perry murmured. "See them? From Tycho, Copernicus, and other craters? Always visible at full moon when the sun is directly overhead on the moon's surface. No man really knows what they are, how formed, or anything about them. They travel over all parts of the moon's surface, independent of mountain ranges and everything else."

Perry paused, frowning.

"Something wrong?" Tanner asked at length, not quite recovered from the breath taking beauty of the view.

"Mebbe; I don't know. Just struck me as queer that Kay Wancilffe gets busy on her double at full moon, at the same time as the streaks and rays. Don't suppose there's any connection, but it's queer."

"Like lunacy at full moon?" Tanner chuckled.

"Yeah; and that isn't so preposterous as it sounds. Such things do happen. And by the way," Perry went on musingly, "the death of women started at full moon and recurred at every full moon after that, until — until there wasn't a woman left in the world. Say! That looks like more than coincidence!"

"You're not trying to connect up the death of womankind and interstellar telepathy with the bright streaks and rays, are you?"

"Perhaps. . ." Perry relapsed into silence. It was clear the matter interested him. At last he shrugged and turned aside, sat down at the controls.

From then on he said but little. Hours passed. He and Tanner took turns at the controls, losing all count of time. They realized finally that several ordinary days and nights must have elapsed and the moon was nearing her third quarter when she loomed below them—no longer a globe, but a black plain embraced in the utter cold of the lunar night.

Perry stared through the window fixedly as he brought the ship curving down into the raven shadows of the lunar Apennines. He clicked on the short wave radio, spoke a few brief sentences.

"We've reached the moon. What do we do next? Awaiting your instructions. . ."

He slowed the ship's speed and circled around, waiting. The Earth, huge and magnificent, disappeared behind the mountain range. The sky was naught but brilliant stardust.

CHAPTER V

"My Life Is in Your Hands . . ."

TANNER gave the slightest of shudders. For the first time the utter weirdness of it all struck home to him. This commonplace journey to the moon, when it should have been an event of world shaking importance; the tomb-like silence outside; the girl who had never lived lying motionless on the bed in Perry's old suit. Tanner turned to study her, then he started as he saw her lips moving.

"Perry!" he whispered tensely. "The girl! Look!"

Perry gave her a brief glance, then nodded. "Good—she's going to communicate. . ." He turned back to the controls, more accustomed than Tanner to the girl's strange moments of ephemeral life.

"You have reached the moon," she

stated impassively, and this time her voice was much stronger. "From the direction of your radio wave you are apparently on the eastward side of the Appenines. Before long, if you proceed northwards, you will reach a crater some four miles in diameter, easily distinguishable because it is elliptical and not circular in shape. Descend into it. Deep down, nearly at the core of the moon you will find me. I will tell you how to do that when you arrive."

The girl became silent again. Perry glanced at Tanner, then he squared his jaw, swung open the floor window and looked down keenly. The searchlights flooded the starlit blackness of the lunar night. He slowed down the ship's speed still further, juggling with the shields. gradually the vessel passed over an infinity of rills, gullies, and pits, until at last he detected the crater the girl had mentioned standing alone in the middle of a dead sea bottom.

He altered the controls, pushed the ship's nose down and dropped into the cavernous hole, searchlights blazing into the darkness. The terrific width of the natural shaft made it impossible to see the sides. All Perry could do was work with half opened shutters and lower the ship inch by inch.

One mile, three miles, five. . . Ten, fifteen. . . Then Tanner gave a shout. "Look below! Some kind of illumination!"

Perry nodded. He had already seen a pale lavender light, increasing in intensity as the ship went down, until finally they burst into a titanic cavern and beheld the source of the illuminant. At opposite ends of the huge natural hole were two monstrous metal bars, remarkably like electrodes, from each of which streamed an unwavering flood of lavender light concentrated on a glowing ball, invisibly supported between them.

"Energy of some kind," Perry muttered, frowning. "Plenty of science behind the idea too. They've figured out a way to make positive and negative power mate together at a given point and produce a flood of light. Nice going. . ."

"And machinery. . ." Tanner breathed, screwing up his eyes and staring amazedly. "Look at it! As far as the eye can see. Machines upon machines, of all sorts and sizes. So much so it looks like—It is!" he whistled. "A city of machines instead of buildings! Say, what do you know about that?"

"Nothing—yet."

PERRY tightened his hands on the controls and flew swiftly over the vast reaches of the machine city. There was no doubt about it. There were no recognizable buildings, no people, no sign of anything except the machines—small, squat, and in flawless condition. What was more, they were working! Every one of them, their wheels and cogs spinning steadily. Each one of them was working out some individual destiny.

"This has got me licked," Perry muttered at last. He glanced at the instruments connecting with the ship's exterior. "Anyway, there's no air here," he grunted. "Only explanation is that the moon's a rock sponge, open right through to the cold and airlessness of the void. Won't affect machinery, of course, but it will certainly affect living matter like us. If we go outside we'll need space suits—"

"What's that?" Tanner interrupted him, pointing. "Looks like some kind of guardian machine."

Perry stared ahead at a monstrous object on four heavy metal legs, standing alone in the center of a circle of machines. Slowing speed to minimum he crawled toward it, flew round it, stud-

ied the queer design of the thing. Somehow, it had the outlines of a human being; it even had arms fitted with vast pincer hands. Clumsy four-pronged feet, too, providing a means of solid, unsliding foundation. It stood perhaps thirty feet high, dominating the smaller machines around it. Apparently it was motionless. The weird quasi-human effect was further accentuated by two projecting lenses on the cannonball-like head, creating the appearance of projecting, many-faceted eyes.

"Gosh!" Perry yelled suddenly, as he flew round the back of it once more. "I just caught sight of an indented name on one of the metal plates. It said 'Fowler Incorporated.' They're the biggest engineers in New York. This thing belongs to Earth—"

"Stop your ship!"

Perry and Tanner both swung round at the command. It was the girl speaking. Perry glanced back at the monstrosity through the window, then he slowly brought the ship down in front of the colossus.

"Is—is Kay Wanclyffe inside that?" Tanner whispered.

Before Perry could make a response the girl spoke again.

"LISTEN to instructions! Inside this metal robot are three brains in air conditioned cases, floating in a life preserving fluid which produces all the essentials of life away from the body. The three brains are my own, my father's, and my mother's. Of course you followed my wishes to bring surgical instruments? Listen very carefully. At the top of the jeweled globe my brain lies inside its special section of the case. Remove the glassy case and sever the connecting wires on the side of the green jewel. Afterwards, subject the brain in that third-section to anaesthesia and place it inside the skull

of the woman you have made. It should exactly fit in the place of the one you have already made, which of course can now be discarded. You will connect up all the synapses, ganglions, neurons, and so forth. You can do it. You made that model without flaw; the rest will not be difficult. Remember, my life is in your hands. Once I recover, I can explain. There is not the time now."

Perry stood in thought as the girl's lips ceased moving; then he turned to the cupboard and dragged out a space suit and a small portable extension ladder.

"Then you're going to do it?" Tanner demanded.

"Sure I am. What the hell do you think we came for? I can do what she wants all right. I learned all there is to know about surgery when I made this woman. You're going to help me. Grab that other space suit from the closet."

Tanner nodded rather reluctantly, followed Perry outside as he opened the airlock. For a while, now they came to walk, they had to flex their legs to accustom themselves to the lesser gravity, far more noticeable outside than in the vessel.

Then at last Perry went slowly forward, planked his ladder in front of the monstrosity and climbed slowly up to the head, stopping when he was above the massive compound lens that formed the green "eye" of the thing.

He found the proper section of the brain compartment easily enough, pulled various tools from his belt and got to work. In fifteen minutes he had cut through a maze of wires and lifted out a transparent section containing a gray organism floating in yellowish fluid. Two other sections remained.

Tanner eyed it doubtfully, even with repulsion. He was no biologist. Perry's face did not seem in the least perturbed

behind his helmet glass. He descended the ladder slowly with the precious braincase in his gloved hand. Only when he had his space suit off and the airlock closed did he expel a huge sigh of relief.

"Whew! That was ticklish work."

"I don't like it," Tanner grunted. "Something horrible about all this. It's—it's repulsive, Perry!"

"Repulsive be damned!" Perry retorted, rolling up his sleeves and washing his hands in disinfectant. "A brain's a brain whoever it may belong to. I've rarely seen one better developed. Come on, give me a hand into this smock!"

HE angled up his hands and slipped into the spotless white overall, snapped on rubber gloves and face mask.



Perry opened the skull of the model and replaced the useless synthetic brain with the living one

"Better do the same," he ordered briefly. "You've got to help me on this. Switch on those floodlamps."

Tanner obeyed, washed and prepared himself as he watched Perry lift the limp model of the girl onto the long table under the lights. He slipped the brain case into the anaesthesia cabinet, broke the case away.

Tanner came forward, could not help but marvel at the incredible skill with which Perry worked, handling the living, anaesthetized brain with astounding delicacy, supporting it with surgical instruments which touched in spots where no harm could be done. Perry himself considered he needed no praise. This job, compared to the making of a woman from raw materials, was mere child's play. His main anxiety was to finish the operation and bring life to this beautiful body which so far had only been a mouthpiece.

An hour passed as he labored on under the brilliant arcs, Tanner assisting tirelessly. The skull of the model was opened, and the useless brain replaced with the living one. With smooth efficiency, using electromagnetic beams and instruments of glittering immaculacy, Perry linked up the vital connections one by one, grafted back skin and bone onto the skull, wiped it with pungent ointments and finally left not even the trace of a scar. And, since the entire top of the skull had been removed for the purpose, not even the hair was shaved away. At the close of the operation only a thin pale line, rapidly disappearing, round the girl's head over her eyebrows, was the only trace of the surgical miracle.

Perry stood aside, shaking now from reaction, mopping his perspiring face with a towel. The girl lay motionless, but as her brain at last began to clear of the anaesthetic her breast began to rise and fall slowly. For the first time

since her creation color crept into her dead white face.

Perry snatched up a stethoscope and held it to her heart.

"She's alive—at last!" he whispered. "Sixty beats to the minute. By the time she's fully recovered it will be hitting the normal seventy two. Reflexes O. K. . . ."

He turned aside, regarding the girl in silent wonderment, and not a little affection. But something was still puzzling him.

"Why should life just happen because a living brain is put inside a body that has never lived?" he asked in a low voice. "Has this girl solved the secret of life, or what? Is life purely in the mind. . . .?" He stopped reflecting, then with a sigh he sat down to wait.

An hour later he and Tanner were rewarded by seeing the girl's blue eyes slowly open as she gazed in wonderment about her.

CHAPTER VI

"I'll Tell You My Story . . ."

IMMEDIATELY the two were at her side.

"You're alive—at last!" Perry whispered exultantly, as her vivid eyes turned to him. Then he swung round to Tanner. "The restoratives, quick!" "O. K."

Between them, they raised the girl's head and shoulders, forced the biting restoratives between her lips. She coughed and spluttered for a while, then rapidly began to gain full possession of her senses. Slowly she sat up and flexed her arms, wiggled her fingers in something like awe. Perry stood watching her in critical silence. She was more beautiful than ever now, she had come to life; yet still he couldn't understand the miracle.

The girl turned to him at last and smiled a little.

"So *you* are the kind friend I have to thank for getting me back to life!" she exclaimed. Again she flexed her arms and fingers. "You can't believe how wonderful it is to have a body again after spending several years having mechanical things do what your limbs ought to do." She stood up slowly, accustomed herself to the gravitation, then walked to the mirror on the wall.

"It's positively uncanny!" she exclaimed at last. "The law of chance certainly operated to the full when you modeled me, Mr. —?"

"Mills. Perry Mills is the name. This is my friend, Bill Tanner— And I might add, Miss Wancliffe, that neither of us know what's going on. What's the explanation of all this?"

"I'll tell you . . ." The girl turned slowly from the mirror, her blue eyes grave and serious. She seated herself in the nearest chair and kept shifting her legs in bewildered delight as she talked.

"When father discovered *wanthorium*—which was quite by accident—all of us realized that space was open to us. Naturally, by 'us' I mean my father, mother, and myself. But we also realized that in visiting some planets we would of necessity meet up with some very hostile conditions—such as poisonous air, even no air at all, strange beasts and entities, all kinds of troubles. That worried father. He couldn't see us trusting just to space suits if we wanted to make a thorough tour—so out of his doubts and plans grew the rather amazing idea of a special robot."

"That colossus standing out there?" Perry asked quickly.

"That's it, yes. There was also considerable doubt that a human body in its entirety would be able to stand the

terrific speeds at which *wanthorium* travels, and unless we did move at a terrific speed it might take father far more than his lifetime would allow to make an extensive tour. Father finally came to a decision, and ultimately mother and I agreed with him. We got the cooperation of father's friend, Dr. Danver Hall, and as an expert neurologist and surgeon he thought the idea was feasible. The idea was to remove our brains, a by no means difficult feat to the surgery of this twenty-first century, of course, and leave our bodies behind to be taken over on our return. The bodies would be charged with long period anaesthetic, enough to keep them in suspended animation for ten years or so. Dr. Hall would look after them."

Perry smiled bitterly. "I see. Maybe you don't know that they were all buried when Dr. Hall suddenly died?"

The girl shrugged. "I didn't know, but I had a suspicion something like that might occur. Not that it matters since you are a master of synthesis. Anyhow, our three brains were connected up by Hall to the monster spacial robot, and with the three of us working in unison the different controls responded flawlessly to our brain impressions, in fact far better than a natural body. We left the Earth secretly; father did not want a word to leak out until he'd brought back some proof. We crossed space at terrific speed, made the moon our first stopping place. We've never left here since."

THE girl's face hardened a little. She got up from her chair and crossed to the window, gazed out over the wilderness of machines.

"Do you realize," she asked slowly, "that these machines are *alive*?"

"Alive!" gasped Tanner. "But—but they can't be! No machine can actu-

ally be—"

"Maybe I put it badly," Kay acknowledged, turning again. "What I really mean is that the last Selenites defeated extinction in a fashion remarkably similar to father's idea. In the years I've been here I've picked up enough to know what they did.

"When they found that their world was falling to bits and that space-cold and airlessness was coming, they transferred their brains to machinery which would withstand the ravages of ultimate cold, and so they gained for themselves something approaching a mechanical immortality. A brain housed in a machine does not easily die because there is nothing to rapidly deteriorate—except the brain itself—and with no blood stream or other sources of impurity to impair it, it can—and does—last for tens of thousands of years. That is, on the moon here. I doubt if it could be done on Earth.

"Well, when we arrived here these machine brains trapped us entirely; they put some kind of electrical current round us that prevented *wanthorium* from working.

"Incidentally, where do the Selenites get all their power to do these things?" Perry demanded, gazing out on the steady activity of the machines' rods, bars and pistons.

"From the sun. The moon is peculiar in many ways, but its biggest asset is its power to absorb the unveiled rays of the sun—electrical waves, various types of radiation, and so forth. The moon is really a gigantic storage battery. Certain veins of rock are purely magnetic; special oxides retain the currents received from the sun.

"Those two huge electrodes up there were made by the machine Selenites for utilizing the constant supply of stored energy. All power and light is derived from there. Only on certain spots on

the moon is the absorptive effect missing; it turns into reflective instead through some rock faults. You might call them blind spots. Those blind spots are the source of the bright streaks and rays which are visible at high lunar noon—full moon—from Earth."

"By which means, unless I miss my guess, you directed thought across the void?" Perry asked slowly.

"Yes, but it wasn't quite so easy as that. Those bright streaks and rays are the source of natural carrier waves to Earth, the nearest neighbor. The sun hurls forth radio waves among other things, and of terrific power. They strike the moon and are reflected from the blind spots out into space again. Naturally, a host of them hit the Earth. They can carry any particular radiation or transmission the Selenites desire—and they do. I'll tell you exactly what in a moment. Right now I'd better explain how my thoughts reached Earth.

"It was blind chance, in the first place.

The moment we realized we were trapped we tried to radio Earth, but the electric shield around our robot blocked the transmission. Finally we hit on another idea. Thought waves, of far shorter length than radio, got safely through the shield. We converted our radio apparatus into a thought wave transmitter—not very difficult since thought and radio waves are almost identical except for length. We directed our combined concentrations to the natural carrier beam on the surface, occurring every full moon.

"We kept it up at every full moon, through the years. We hoped finally to effect a radio set somewhere on Earth and get a message through. Our only chance in doing that lay in a radio set somewhere having the exact reception

coils necessary. A mighty slim chance! If we did strike one, our instruments would reveal quickly enough that we were in contact. For years nothing happened."

The girl fell silent for a moment; then her eyes brightened.

"Then I suddenly realized that my particular concentrations had impacted on something and were being interpreted—but it wasn't a radio because my father's and mother's thoughts were not being received at all. Finally I worked out the reason. Somehow, a brain had come into being, a brain identical with my own. My every thought was functioning through a body, just as if I were a living being. It could only mean that by some chance an exact duplicate of myself, with an exactly duplicate brain had been created. How, or why, I did not know. The impulse to speak reacted perfectly and my image spoke in sympathy. You understand now?"

"Clearly enough," Perry nodded. "It was, in a sense telepathic remote control, the only difference in this case being that thought waves reacted instead of radio. Even though I can understand that, I do not understand why a brain alone should be the vital secret of life and living manifestation."

"It isn't!" the girl contradicted quickly. "A brain is the organ of thought interpretation. Thought is life; without it there can be no life. The actual source of thought is a mystery, unless it be the ether of space itself interpreted through individual brains—but the fact remains that so long as a brain can interpret thoughts it can make a body live. That was why your synthetic model of me did not live until it had a thinking brain inside it. You could not create thought, therefore not life. Remember the famous saying—'I think, therefore I live.'"

PERRY was silent for a long time when the girl stopped talking. Then at last he said slowly, "I don't think I ever heard of a more ingenious way of sending for help."

Kay shrugged. "Without that one chance of you forming molecules and atoms identical to my original body I could never have done it. I have you to thank for real life, a real body, and —" She paused and sighed. "But there I go! We're not out of the woods yet by any means. From what I've learned of these Selenites, they are trying to get the Earth for their own uses. For generations they have tried to wipe out humanity with specially devised radiations. The only effect was, in certain cases, to produce lunacy among some individuals at full moon. That's an acknowledged fact, of course."

Perry smiled. "Of course. Hence the word 'lunatic'."

"Just after we got here the Selenites devised a new system of control, reacting directly on female brains, which are far more sensitive to ethereal changes than those of the male. Every living female, human, animal, insect, and so forth, was wiped out, was it not?"

"That was why I made you," Perry said bitterly.

"Humanity will die because it cannot procreate," Kay said pensively. "But the Selenites have still to conquer space travel. When we arrived here they realized the secret was in their grasp; but up to now we've resisted every attempt to make us divulge it. They undoubtedly hope to finally wear us out; that's why they've held us here. They have hopes too of finding some way to get hold of earthly bodies if they ever reach Earth. They want that more than anything else in the universe—to be rid of these encumbering machines they go about in. So as things stand, I guess it's stalemate."

CHAPTER VII

"We'll Give the Selenites Our Secret . . ."

A SILENCE fell on the little control room. Perry stood with his chin sunk on his chest. Tanner finally spoke.

"Queer, isn't it, that these machine people have allowed us to take Kay's brain from the robot without attacking us?"

The girl laughed shortly. "You'll probably find that they've got you here as firmly as the robot. Your controls will probably be dead."

"What!" Perry gasped, and swung to the control board.

The girl was right. The *wanthorium* plates failed to respond as the beryllium shields slid to one side.

"There you are!" Kay sighed. "It's a neat way of keeping a prisoner. Fortunately the electric current doesn't affect flesh and blood; that's why we're all right—also why you could move me from the robot without any ill effects."

Tanner gave a grunt. "Now that we know everything we're no better off! The Earth is still devoid of women, and since it takes a living brain to give life to a synthetic model how the devil are we going to do it? In any case we're stuck here, and these damned machines will probably attack us before long."

"Only if you attack them," the girl put in quietly. "Stay passive, and you've nothing to fear."

"But we can't stay passive! We want action."

"Living brains—Synthetic models," Perry said suddenly, starting to pace up and down. "Let's get this thing straight. We have here a situation wherein two worlds are at loggerheads because they're both driven by desperate necessity to need something the other possesses. Miss Wycliffe, as I see

it these Selenites want to take over the Earth so they can devise ways and means of having natural bodies again on a young world, without recourse to mechanical aid. Right?"

"Just that," Kay nodded.

"Hmmm. . . . Because they feared opposition they wiped out the female half of the human race, knowing the remainder would perish within a century?"

"Right again."

"They are scientists of a high order," Perry went on slowly, gazing thoughtfully in front of him. "Therefore they did not destroy through any vicious sense, but because it seemed to them the only method of gaining their end, even as a man might slay his favorite horse for meat if hunger drove him to it. That does not make him a devil at heart."

"What the hell are you driving at?" Tanner demanded bluntly.

Perry smiled faintly. "Way back in 1980, Earthlings finally learned that the surest means of lasting security is gained by arbitration. You remember the friendship over the world, the study of different nations' greatest needs? How there finally grew out of exchange and cooperation a bloodless and permanent world peace? Well, that taught every true man that violence is not the way to settle a difference. Cooperation is the secret. I'm trying to put those ideals into effect right here. Call me an ambassador or diplomat for Earth, if you like—but I think that right under my hands there lies the solution to both difficulties. It all depends how I work. These people are not vicious, otherwise they would have slain, or somehow destroyed the three-brained robot long ago and learned its secret. Instead they prefer to wait until it is given up through sheer necessity—"

"More likely because it's the only

way they'll get it," Tanner snapped. "They'd never find that secret without being told, would they, Miss Wanchcliffe?"

"Unlikely," she confessed; and looked at Perry queerly. "What are you getting at?"

"Just this. The Selenites can't act without space travel. The human race cannot survive without female brains to be fitted to synthetic bodies. That isn't a mathematical puzzle—it's common sense. Suppose, in return for the secret of space travel the Selenites consented to have their brains—the female ones—fitted to synthetic earthly bodies? Our race would be saved."

"YOU'RE screwy!" Tanner shouted.

"The Earth would be overrun with Selenites in no time. Lord! Think of the wars there'd be! It's playing right into their hands. Superscientific Selenites versus the last men of earth? Not darn likely!"

"Wars? No!" Perry shook his head firmly. "The moon was once part of the Earth. At root, Earthlings and Selenites are of the same basic protoplasm. They've evolved differently because of different planetary states, that's all. Superscience doesn't beget war, but progress."

"Yeah; like the slaughter of every woman on Earth, eh?" Tanner snapped.

"Science would call that necessary elimination." Perry paused, looked at Tanner and the girl each in turn. "Can't you see?" he demanded. "The Selenites will never discover *wanthorium* unless we give it to them, and we can't escape either. On the other hand, the human race can't survive unless Selenite brains are used. That's the top and bottom of the matter."

"Maybe you're right," admitted Kay, musing. "After all, they could advance Earthly knowledge enormously."

"Exactly." Perry was smiling strangely. Tanner had a queer inner conviction that Perry had not told everything that was in his mind. He knew that enigmatic smile too well.

Perry swung suddenly to the girl.

"How does one communicate with these machine folk?" he asked briefly.

Turning, she pointed through the window to one particular machine composed of an enormous cylinder supported on two side trestles. It looked remarkably like a gigantic dictaphone. At the moment the cylinder was motionless.

"That's it, an electrical thought recorder," she said quietly. "It takes the impressions of thought waves on the drum, then by some process I don't propose to explain it changes your language into lunar by internal mathematical means, afterwards changing lunar back into English. That's what we've used to communicate."

"Do these machines read thoughts?" Perry asked anxiously.

"The machines themselves can't read thoughts—only the recorder can do that—and only then when you directly concentrate on your message."

"Good!" Perry's nod was distinctly relieved. He turned to the closet and took out his space suit. In a few minutes he was outside, standing before the strange machine. The drum was slowly rotating.

Tanner glanced at the girl by his side.

"I still don't like it," he muttered. "If you ask me anything, Perry's sealing the doom of Earth more certainly than it's sealed already."

"I wonder if he is . . ." The girl's eyes were thoughtful. "I trust him. After all he's done for me I'd trust him to the ends of the universe."

Tanner said nothing. He was frowning in perplexity.

PERRY spent an hour giving his message, and in the ensuing hour he did little save pace the control room anxiously completely ignoring the meal Tanner had prepared for the three of them. Time and again he went to the window, until at last he saw the waited sign—a long roll of metal ejected from the strange cylinder.

In minutes he was outside and in again, only paused long enough to take off his space suit helmet, then unrolled the metal message eagerly. For a moment he stared wonderingly at the faultless spelling and execution of the stylus indented message, then gave a whoop of joy as he read, Kay and Tanner staring over his shoulder.

"They agree!" he shouted exultantly. "They agree! Read for yourselves!"

They didn't need telling. The answer stared up at them.

"Your message has been received with interest by our people. We have debated the matter and have decided to accept your proposition. We realize that it would be impossible for you to provide us with bodies such as we used to have because you have no knowledge of the anatomy of lunar beings. Further, we realize that our construction on earthly lines is the only way for us to achieve ease on your planet.

"We wish you no ill—only our own advancement and the possession of bodies instead of imprisoning machines. We shall place ourselves in your hands, but as a safeguard during our synthetic construction on Earth we propose that our numbers should stand guard to prevent any possible deception. We trust you, but you cannot be answerable for the rest of your race.

"All we need is *Wanthorium*. In our machine bodies we can fly through space without ships. The fact

that we shall keep faith with you is self evident, because we need earthly bodies more than anything else in the universe. In return for this, the secrets of lunar science will later be yours."

Perry laid the metal sheet on one side.

"Phooey!" growled Tanner. "They're all soft soap at the moment, but once they know space travel and have earth bodies they'll move around and wipe humanity off the Earth."

Perry smiled very slowly; it had a touch of grimness in it.

"That," he said quietly, "remains to be seen. For the time being, I trust 'em."

PERRY lost no time thereafter. He handed over the secret of *wanthorium* once he had gained the accordance of Dr. Wycliffe's imprisoned brain to his schemes. Thereafter, through several weeks, it was mainly a matter of watching the Selenites' incredibly advanced engineering machines manufacturing the stuff in infinite quantities, delicate machines fitting the stuff to the ten thousand Selenites present in the enormous underground cavern.

So far, the Selenites had kept faith. The time came at last to depart for Earth.

Perry himself led the exodus in his ship with Wycliffe's double brained robot immediately in the rear. Further behind, floating through the weird galleries of the moon, came the ten thousand Selenites in a disordered array of machinery.

Upward and outward into the blind- ing sunshine, into the depths of space, over the gulf to Earth and the American continent they went. The enormous Selenite army settled just outside New York, much to the consternation of Earthlings who imagined interstellar in-

vasion was now added to their troubles.

Then Perry spoke over a world television hookup. Presidents, kings and dictators listened to him, scientists were on tenterhooks, surgeons were astounded.

"Upon the cooperation we can now give depends humanity's last hope of survival," Perry stated calmly to the battery of transmitters before him. "You have heard my plan, and it is the only feasible one. Every man with medical knowledge, every surgeon in the world, must come to New York. The Medical Institutes will be opened for our purposes. Men must be trained in the art of making synthetic beings—beings who will take on life when living lunar brains are transplanted into them. It may take years—years of grueling endeavor—but because so much hangs on it I know you will agree."

Perry was right in that. Mankind agreed everywhere, and New York saw an influx of medical experts such as the world had never known. Even President Gregory, a one time doctor, offered his services. And an added spurt was given to endeavor as armies of Selenite machine brains floated overhead almost ceaselessly, waiting, watching, prepared to strike without mercy at the first sign of an attempt to break faith.

But Perry and his enormous army of ever growing workers did not break faith. They wanted humanity to survive as badly as the Selenites wanted living bodies.

Through the months, enormous surgical laboratories sprouted in all directions. The whole world was concerned only in the making of synthetic men and women from Perry's original plans. Five thousand men and five thousand women—the women first by mutual agreement with the Selenites.

Perry himself concentrated first on re-creating the bodies of Elroid Wan-

cliffe and his wife, was finally rewarded by seeing them living and well beside him, restored to the girl who had untiringly helped him through all his endeavors.

Tanner too had changed, was carried away with enthusiasm for the project, even though he still had inner doubts.

A year went by. Two years. . . . Five years. . . .

Synthesis was everywhere. Day after day more and more brains were transferred to waiting bodies and the corresponding number of alert Selenite machine watchers grew correspondingly less—

Until at last the day arrived when every brain had been given an Earthly body. The last Selenite man mingled with Earthly people, along with the lunar men and women who had gone before him.

"I CAN'T for the life of me understand it!" declared Dr. Wanccliffe, as he stood in the surgical laboratories surveying the report on the synthetic people's progress. "These men and women, virtually made from the test tube and possessing incredibly brilliant minds, are quite content to mate with each other. In several cases Earthmen have married lunar brained women—and the lunar women, though infinitely cleverer, have settled down to quiet domesticity. It beats me! You've restored the balance of the human race, Perry; it's only a question of time before the race picks up again, but—"

Wanccliffe stopped and frowned. "Why the devil don't any of them try to seize power? That's what I expected."

"I thought the same," growled Tanner. "I'm ready for them to launch something dastardly any minute."

"So am I," murmured Kay, glancing across at Perry.

Perry smiled slowly, surveyed the assembled surgeons.

"In a few months the world will be back to normal," he said quietly. "Business will resume. Out there beyond New York is a vast field of machinery which contains all the secrets of lunar science we'll ever need to know. They can easily be analyzed. Those machines formerly housed brains, which are now in the bodies of synthetic earth men and women.

"The moon is totally devoid of life; all chance of threat from there has gone. I took a long chance, my friends, and it worked. These Selenites never had the power to read thoughts, therefore they never knew my innermost ideas. Further, their destruction of womankind *was* dastardly, though I said otherwise at the time to drive home my argument. I've turned the tables on them by using their womankind to repair our deficit."

"But *how*?" Wanccliffe demanded. "They behave just like ordinary Earth women, and therefore—"

Perry held his hand up for silence, went on talking.

"The genius of a Selenite brain is only produced because the moon has a sixth of the Earth's gravity. When the Selenites were flesh and blood the lesser gravity permitted a fuller, clearer bloodstream to nourish their brains. Their brains became brilliant because they were fed by a perfect circulation that had but little gravitational drag to overcome.

"*But*, when they were given Earthly bodies they naturally had an Earthly gravity to contend with, and also an Earthly bloodstream which is nothing like so smooth as a Selenite's. The result is that the brains are not so well nourished, no longer capable of getting those vast ideas. They've been defeated by a biological fact. They'll never be clever again; they're *earthly*!"

"Good Heavens!" Wycliffe breathed, staring at Perry blankly. "You're right! And to think nobody thought of it—"

"Why should they? It's the obvious thing that escapes notice."

Perry turned aside as the scientists gathered together to talk the matter over. He laid a strong hand on Kay's arm.

"Funny thing," he murmured. "I don't quite know whether I ought to ask your father's permission to marry you, or not. After all I created you..."

"My body... yes," she agreed softly, "and my love I gave you from the first moment these synthetic eyes of mine saw you. Nor do I think anyone will question your title to both!"

For answer he clasped her to him and she felt him shudder slightly.

"Perry!" she uttered anxiously, "what is it?"

He answered slowly, thankfully, "It's just that I've realized for the first time how truly horrible is a world without women!"

THE END

« « A NEW RACE OF PEOPLE » »

PEOPLE of an unknown race have recently been discovered living in a hidden valley in the interior of New Guinea. The valley is nearly inaccessible, surrounded by limestone cliffs seven thousand feet high.

Formerly a German colony, New Guinea is now administered by Australia under a League of Nations mandate. Nothing much is known of the interior; in fact, for many years it was supposed that the high mountains surrounded a great inland sea. J. G. Hildes, one of the assistant magistrates for the territory, was leading a patrol when he discovered the valley and its mysterious people.

The expedition had penetrated the mountain barrier when they were ambushed by fair-haired natives. The ambush was purely precautionary on the part of the natives who were not at all warlike. Hildes soon convinced them of his good intentions. He says they treated his party "with kindness and even with courtesy. Then after a little while they politely requested us to be gone."

He estimated that there were 100,000 of them living in the valley. They were expert agriculturists, tilling the soil with wooden implements. They refused gifts of those made of iron. Most surprising was their interest in reforestation. They planted trees systematically to take the place of all cut down.

Their dwellings were built of slabs of timber hewn into shape with wooden axes. Each house stood by itself, with a path leading from the main road. The white men were not permitted to leave this main road and approach the houses.

To quote from a report on the expedition just issued by the Australian government: "Mr. Hildes insisted that the natives are of an entirely new race. His own surmise is that the light-skinned people escaped years ago up the limestone cliffs after defeat in battle by other tribes; that they settled in the fertile valley which they had discovered in the heights, multiplied, and secure from molestation, developed into an entirely self-contained community. It is the 'Asiatic' characteristics of the hidden people which give rise to the most interesting speculation. There is little doubt in the minds of those who have travelled the length of the Sepik River that centuries ago some foreign invader passed that way, leaving behind vestiges of his culture but few if any of his racial characteristics."

Does the discovery of this lost race constitute a contribution to the solution of this problem, or merely add to the mystery?

—Morrison Colladay.

Madness On Luna

by R. R. WINTERBOTHAM



Huge rocks danced like mad dervishes
The entire lunar plain seemed in motion.

What was the mysterious death that lurked on the lunar plains? One man had already died, but Verne Scott dared venture from the ship to face the mysterious madness

CAPTAIN BARKER lifted his shifty, beady eyes to those of his two companions.

"Even before interplanetary travel," said he, "the moon was regarded as productive of madness."

Verne Scott, droll, rather untidy in loose-fitting space-slacks, cocked his cigar upward and grinned at the captain.

"Is it fear I see in your eyes, Captain Courageous?" he taunted. "Aye, 'tis the lean, hungry look of terror. Like Casius, you think too much."

The captain snorted at the interpolation of Shakespeare, while the third member of the group, Stanton Willard, who held directorships in half a dozen interplanetary corporations, gazed unperturbedly from the porthole into the gulf of space between the Earth and her satellite. Stanton took slight interest in Scott, the scientist, and Barker, the spaceman. To Stanton, even Hooper,

who stood at the controls, was a piece of machinery.

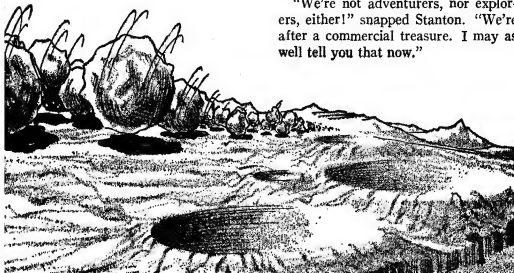
"Were I able," retorted the captain, "I would avoid the moon as a plague."

"You knew where we were bound when you signed for the voyage, captain!" reminded Stanton without turning his head. "Remember your contract! You'll hold to the line or I'll see you never get another job on the space-lanes."

"Moon—plague!" mumbled Scott. "Personally, captain, I'm in favor of mutiny. I came along for adventure, thrills, new sights to stir my bones, but I find I'm a link in a commercial enterprise."

"Then you don't take much stock in the tales of moon madness?" asked the captain, his nervous irritability seeming to increase. "Remember Eibra? Dead on the moon and all his crew with him. Remember Whitmarck and Andre? Both came back stark, raving mad! This is no pleasure jaunt, Scott!"

"We're not adventurers, nor explorers, either!" snapped Stanton. "We're after a commercial treasure. I may as well tell you that now."



Scott's eyes widened. Captain Barker's glance fastened itself on Hooper who seemed suddenly to grow busy at the controls.

"The *Mohawk*!" whispered Scott. "The scourge of space piracy! The best armed cruiser in the universe—"

"Worth a hundred million!" added Stanton, "and ours for the picking. I'm not going to let it rot on the moon."

Hooper cut the blasts.

"We're ready for the landing, Captain!" he informed.

THE SALVAGER, Stanton Willard's craft, bedded down on her flaring rockets on a plain, one-half mile from the hulk of the deserted *Mohawk*.

The evening terminator,* the line between darkness and daylight, was twelve hours west of the spot. Scott made his calculations and announced the result.

Stanton Willard spoke: "Captain, tell Hooper to put on a space suit and take the gravity outfit outside for a test."

He stood gazing from his porthole at the overpowering vista of the lunar landscape. A range of towering peaks, tall as Everest, extended across the foot of the plain. Grayish white rock, with-

out vegetation, covered the ground. The shadowed sides of mountains and the boulders were black as lumps of coal, while the sunward sides glistened with blinding sun reflections.

The contrast of light and shadow was amazing. Even the sky, black as ink, was spotted with glowing blue, green and red stars, like Christmas tree lights. The sun's green and crimson corona fluffed out from the king of the system like a ruffled collar.

The ground below bore unhealed scars of a million seismic shocks—moonquakes. It was pock-marked with meteor holes which blended with the jagged cracks that zig-zagged over the plain. Some of the crevasses were filled with debris, while others yawned to terrifying depths. The scene was beauty, but it was the ruthless, statuesque beauty of death. Nothing moved; nothing changed. There was not a breath of air, not a sign of life.

"What did Whitmarck and Andre see that made them mad?" asked the captain. "Surely, not life! Nothing could live—here."

Scott's eyes traveled across the plain to the hulk of the *Mohawk*. He blinked his eyes. He picked up a small telescope and trained it on a dark object on the moon sand near the airlocks. Then, without a word, Scott passed the telescope to Captain Barker.

The spaceman scanned the scene. His rugged face lost more of its color and his lips twitched. Muscles of his throat grew taut.

"Something got 'em, every one!" he choked. "There's something on the moon that's death or madness to man!"

"Let me see!" Stanton, the tycoon, impolitely jerked the telescope from the captain's hand. He put it to his right eye. "Ah! It's a long, metal tube! Looks like a heat gun. By Jove! That's what it is. But what's that irregular ob-

* The line which separates the dark portion of the moon from the bright portion is called the "Terminator" and is always a semi-eclipse, since it is a semi-circle, viewed obliquely. It is the "twilight" line of the lunar day. It travels across the surface of the moon at approximately ten miles per hour, and an able bodied man might be able to keep pace with it for a time by running with it. Due to the lack of diffusing atmosphere, the terminator is an abrupt, sharply defined line and to a person standing on the moon, it would seem as though the change from day to night were almost instantaneous. The terminator makes a complete circuit around the planet in twenty-seven days, seven hours, forty-three minutes and twelve seconds. There are two terminators, too, one in the morning, one at night, therefore from earth we see one of them every thirteen days, fifteen hours, fifty-one minutes, and thirty-six seconds.—Ed.

ject in the firing mechanism guard?"

"That, Mr. Willard," said Scott grimly, "is a human hand, clad in a transparent space glove. The hand no doubt, is mummified by the vacuum of space, and the rest of the body is—"

"Never mind," interrupted Stanton, hastily. "There are carnivorous beasts on Earth, too, you know."

HAL HOOPER, helmsman on the *Salvager*, was opening his space-chest. From it he drew the light, transparent suit that protected against airless space. He slid into the apparel and left his head covering open while he adjusted a small tank of oxygen. Then he walked to the doorway.

"Jack!" he called at the door of the space locks.

A bronzed, half-naked giant, appeared in the engine room.

"Ya couldn't pay me enough to go out there, buddy!" grunted the fuel tender. "There's something out there! I can feel it through the walls of this ship!"

"Rot! Give me a lift, will you, Jack?"

The fuel tender assisted fastening two enormous weights to the legs of the space suit. Outside the artificial gravity field of the *Salvager* the weights would be needed to compensate Hooper's terrestrial strength with the moon's gravity.

With the weights adjusted, the fuel tender stepped back, out of the locks. The door was closed and Hooper smiled as he turned the valves that allowed the air to escape from the chamber. The space suit ballooned with its inside pressure and Hooper dragged himself through the outside door.

At once he became buoyant and he walked easily, despite the heavy weights attached to his legs. Hot rock on the moon's surface, which had been

heated for days by the slowly moving sun, burned the soles of his feet. To escape this punishment, Hooper ran with long, leaping bounds toward some nearby shadows.

Half a dozen of these seven-league steps carried him some distance from the *Salvager*. Then, almost inexplicably, a shiver ran down Hooper's spine. It was as if he had passed through a shadow: a ghastly, ominous shadow. His eyes glanced backward, toward the safety of the *Salvager*. Misgivings tugged at his muscles. But he took another step.

Then his body contorted as a searing pain racked every fibre of his being.

He could not move his lips to scream. He was paralyzed. The blood of his body curdled and boiled. His senses dimmed and the glaring light faded. The scene grew dim and then black as Hal Hooper's body sank lifelessly on the sands of the dead world.

VERNE SCOTT had been watching from a porthole as Hooper emerged from the airlock. As he noted Hooper's strange actions he touched a bell, summoning the captain and Stanton Willard.

A strange force dragged Scott's eyes toward the leaping figure. He saw Hooper's movements cease in mid-air and he saw the man's body settle lifelessly down upon the lunar sand. There was something startlingly deliberate about Hooper's death. It was as if he had been slowly executed by an invisible ray.

Stanton, who had answered the summons, entered the room. His pale face turned away from the porthole at the sight of Hooper's dead body.

"Oh, God!" Stanton groaned. "What happened."

"Hooper died, Mr. Willard, and off-hand, I'd say that he was deliberately

killed by some living, thinking thing!"

"Life here!" ejaculated the capitalist. "Impossible! We couldn't see it! Could it be invisible—could it exist in another dimension?"

Scott shook his head.

"It might be invisible—many things are not visible to our terrestrial eyes, some things are too small and other things are too subtle—but I don't think it was anything like that that killed Hooper."

"No," said Stanton Willard. "It wasn't that."

Suddenly a scream echoed through the craft. Captain Barker staggered into the room.

"Look outside!" he screamed. "It's the devil himself!"

Scott peered through the porthole, expecting perhaps to see some hideous monster. But at first he saw nothing at all.

"Look east!" pleaded the captain. "Look at the terminator!"

Scott's eyes caught the margin of blackness that was advancing toward the ship. Night was rolling over the lunar prairie. But that was not all that was rolling.

The entire lunar plain seemed in motion: huge rocks and small grains of sand seemed to be slowly lifting themselves up from their bases and dancing like mad dervishes at the approach of lunar night.

"The rock—the rocks! They're alive!" breathed Stanton. "No wonder the men who made the first voyages to the moon returned with unbalanced minds!"

Crawling chills snaked up the spines of the three men who watched. In the engine room they could hear Jack Hatney shouting in terror. He, too, had seen.

It was a nightmare, a dream of living mountains. Slowly the moving rocks

advanced toward the *Salvager*!

"Get over there by the controls!" said Scott. "It's the best protected part of the ship!"

The next instant the sides of the craft rattled like a tin roof in a hailstorm as the living avalanche swept over the ship. For a minute or two the din was deafening. Then it slacked and finally ceased altogether.

Stanton was the first to speak.

"They didn't hurt us!" he marveled.

"No," said Scott. "And they can't hurt us now—the metal in the ship protects us."

"How?"

"I'm not sure, but this power these living rocks have undoubtedly is electrical. I'm sure Hooper was electrified."

Captain Barker pointed through the porthole.

"Metal may not be in the diet of those rocks, but human flesh is. Look!"

The men followed the captain's pointing finger. There, where Hooper's body had lain was only two metal weights—the weights that Hooper had fastened to his legs. Where the metal fibre straps had bound the weights to the legs were irregular shaped masses of what might be the remains of flesh.

"The moon is mad!" muttered Stanton Willard, his voice a hoarse croaking.

AN hour later Scott donned a space suit. But first he spent time in the airlocks, carefully working on some machinery that he had installed in the place.

The *Salvager* had been constructed with every modern improvement, including a large number of emergency features that none of the travelers had ever expected to use. It was one of these emergency machines that Scott had installed in the airlocks of the craft.

Inside the airlocks, Scott sat for a long time, a coil humming at his feet and his hands grasping two electrodes that were fastened to the machine.

When he had finished, Scott adjusted metal weights to his legs and he stepped out of the locks into the cold night of the moon.

The darkness was not murky, nor black. It was a dead, lifeless shadow. Overhead the filling crescent of the earth shed her light on the scene. For a moment, Scott watched her, wondering if he would ever return. He had hazarded his life on a piece of guesswork. If his conclusions were correct, he would have nothing to fear. If he was wrong—then his body would meet the fate of Hooper's.

He took a step forward, carefully avoiding crevasses that zig-zagged across the floor of the plain. Dimly he felt the lurking menace of the shadows. Like Hooper he sensed that the rocks were alive and resentful of this invasion from a foreign planet.

But Scott did not pause. Nor did he meet the fate that Hooper met. Straight to the door of the *Mohawk* he walked.

As he reached the door, he turned. The airlocks of the *Salvager* were slowly opening. Someone was following.

Scott stood in the shadows. A buzz sounded in the earphone of his space suit.

"Hello!" came a harsh, metallic voice. "Hello! Scott! Where are you?"

A grim smile spread over Scott's face and he nodded his head slowly. So they wanted him to believe that the moon made men go mad, did they! They wanted him to realize that sinister forces lurked in rocks, in sand and in crevasses, to strike down human beings with invisible force!

Everything was quite clear now. Scott understood why the rocks moved

and why men died. He knew too that one of the two men that accompanied him from the earth had been here before. He knew that one of them was not interested in salvaging the *Mohawk* but was bent on obtaining a craft that would make a space pirate invincible.

"Hello, Scott!" came the voice again. "Can't you hear me!"

"Yes," said Scott. He was well within the airlock, hidden in the lightless shadows that could not be pierced by the eyes who watched him from the doorway of the *Salvager*.

"Where are you!"

Scott could detect cruel eagerness in the voice.

"I'm standing in the shadows of a rock—to the left of the *Mohawk*!" replied Scott.

His ruse worked. Suddenly from the lock of the *Salvager* a jagged pencil of flame lashed out. The ray from the heat gun struck the rock and lighted the scene for an instant with a lurid violet light. Then it flickered out. In Scott's earphones sounded a hoarse, vicious laugh.

"Thought you fooled me, eh—out-guessed me by reaching the *Mohawk*? But you can't outguess a heat gun!"

The *Salvager's* door closed. For several minutes Scott waited. Then he stepped back onto the lunar sands. Dodging from shadow to shadow he reached the tube of the heat gun left behind by the member of the *Mohawk's* crew. A hasty examination told him how the rolling rocks of the moon had chewed the man's flesh to bits. It had not been the feast of something alive, but it had been rapid evaporation and the rapid erosion of the remains by churning rocks.

"Moon madness!" Scott laughed. "I was sure, quite a while ago that the stories were a part of a buildup to explain what was going to happen to those

of us who were not pirates! Only a pirate who had visited the moon could have known the moon's secret!"

The heat gun had been polished and slightly dented by the action of the rocks. But the hard metal had withstood harsh treatment to an excellent degree and it was still charged.

Scott picked it up and then made for the locks of the *Salvager*.

He quietly entered the locks. He started the machine and for several minutes more he sat by it, grasping the electrodes.

Then, with his heat gun in his hand, he advanced into the living quarters of the ship.

The captain and Willard were in the control room.

"SCOTT!" gasped Stanton as the scientist appeared in the doorway. "I thought you were dead!"

"Jack Hackney—the fuel tender—just reported that he saw you burned by a flash of lightning!" said Captain Barker.

Scott nodded and leveled the gun at the two men in the room.

"One of you knew what happened," he said. "One of you was pretty sure I was dead. Which one?"

Willard and the captain looked suspiciously at each other. The capitalist drew himself up indignantly.

"Explain those accusations—or at least it sounded like an accusation to me!" he ordered.

"All right," smiled Scott. "I will. Both of you have been nervous lately and I have too. All of us have been repeating stories about moon madness—strange inexplicable things happening to human beings on the moon. Such things have happened. Hooper died today and we saw rocks behave as if they were alive.

"But the rocks were simply demon-

strating that energy can be stored. Expansion and contraction of the rocks through the heat of the lunar day and the cold of the night must cause a tremendous amount of bouncing around of loose rocks on the moon's surface. And that's why Hooper died!"

"You mean the dancing rocks had some connection with Hooper's death?" asked the captain.

"A connection yes—but Hooper really was murdered!"

As Scott spoke he put aside the gun and advanced toward the two men. Stanton Willard stood, looking stupidly at the scientist, but Captain Barker screamed and cringed into a corner.

"Stand back!" shouted the captain. "You're charged with the moon's electrical potential! You'll send a charge through me like a bolt of lightning!"

Scott halted and laughed.

"A thousand pardons, Mr. Willard, for suspecting you!" he said. "Captain Barker has just confessed!"

A FEW minutes later the captain was in irons and Willard was demanding explanations.

"Well," said Scott, "we'll start with the expansion and contraction of the rocks. That produced static electricity, which hiked the moon's surface potential to something enormous all along the terminator line. You'll have to remember that there are no clouds or thunderstorms on the moon and the soil is dry so the differences in potential will not be equalized over the entire planet. Only along the terminator line will it be great enough to do much damage.

"When we landed—about twelve hours from the terminator—we were comparatively safe. We might have done quite a bit of exploring unharmed. But it was Hooper's misfortune to do as the crew of the *Mohawk* did—step out on lunar soil just before sundown,

when his potential was much lower than that of the moon's surface. You see, this ship is insulated on its interior and we've pretty much the same electrical potential we had when we left earth."

"But how did you escape?" asked Stanton Willard. "How did you walk around on the moon unharmed?"

"I equalized my body potential before I stepped out by using a resistance coil. Then when I came back in, I used the same method of reducing the potential by hooking the coil to the ship, instead of to the moon's surface."

Stanton Willard's eyes flashed.

"I see!" he exclaimed. "Captain Barker was the only man that under-

stood that anyone who could walk on the moon unharmed, would be a walking bolt of lightning—"

"He didn't think of the possibility that I had reduced my potential," laughed Scott. "If he had used his head he might have known that anyone who could go out of the ship, could have come back in by adjusting his electrical charge in the same manner."

Stanton Willard snorted.

"For a commercial enterprise, this salvaging expedition has had altogether too much harum-scarum excitement in it! Let's get to work on the *Mohawk*—after you show me how to work that potential gadget!

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INVISIBLE



A moaning whine came from the machinery as they battled for the gun

INVASION

A weird drifting death blanketed London. Thousands died. Buildings crashed. Bridges crumbled. And Ingram ventured into the very heart of the deadly area to find the reason for it all

BY
**FREDERIC
ARNOLD
KUMMER, J. R.**

CHAPTER I Havoc in London

THE big car thundered westward, rocking, swaying, as its grim-faced driver avoided the crowds of refugees.

Steve Ingram, pushing tanned fingers through his sunburnt red hair, turned to the lean grey man at the wheel.

"Getting worse, Sir Geoffrey," he muttered. "These refugees will block the road altogether soon."

"That's the fault of the newspapers."

Sir Geoffrey Wicke shook his head. "Keeping this horror from the public in hopes of avoiding a panic! They should have known that word of mouth with its exaggerations would be far worse! Unbelievable that in this, the twentieth century, we should spend two weeks at Wicke House, not sixty miles from London, and still not know of the terrible events taking place in the city!"

Mona Wicke, a pale, slender figure between the two men glanced at the crumpled telegram once more. The already familiar words burned into her brain.

"Unknown plague sweeping London. Situation acute. Thousands already dead, more dying. Your presence requested at emergency meeting St.



Luke's hospital 5 p. m. today. (signed) Willis."

"Oh, Dad!" the girl whispered. "Doesn't anyone know what it is?"

"No one." Sir Geoffrey's voice was dull. "That's why they need me. Toxicological research may determine its cause. I phoned Willis just before we left. His description of the symptoms was incredible. Yellowed skin, running sores all over the body, lung tissue destroyed, blindness, the eating away of living flesh! Ghastly!"

Steve Ingram stared moodily at the road before them. Hundreds, wide-eyed with fear, in motor cars, lorries, on foot, carrying their household possessions with them. Frightened multitudes, driven on by dread of infection, seeking shelter they knew not where. Inns, farmhouses were closed to them, since they came from plague-infected London; many appeared weak from starvation, exposure. Plodding pathetic figures under grey leaden skies . . . a mad dream it seemed to Steve.

A month before, he had come to England, vacationing, had met Mona, been invited to Wicke House for the shooting season. Two weeks of lazy, quiet living, made doubly attractive by Mona's presence, and now, out of a clear sky, this grisly horror the third horseman of the Apocalypse, sweeping aside all else with bony, leprous fingers! Impossible, still, to believe that all this was real. . . .

"You'll be sailing for America at once, I suppose," Sir Geoffrey said, his eyes on the road.

Steve felt Mona's fingers press his shoulder.

"As a chemist, sir," he said, "I want to offer my services to the British government. I may be able to help. . . ."

"Good lad!" Sir Geoffrey nodded approvingly. "There'll be plenty for you to do!" He glanced at his watch,

frowning, bent lower over the wheel as the big car leaped ahead.

IT WAS late afternoon when they reached the outskirts of London. Here the road was almost blocked by haggard-eyed fugitives, some in an ugly mood, their dust-covered faces dull with fear. As they entered the city the scene became one of pandemonium. Everywhere were milling thousands, intent on escape from the mysterious yellow death. Sir Geoffrey was obliged to drive at a snail's pace to avoid accident. Once a grim-eyed man, his face contorted with terror, sprang to the running board, demanding that he be taken from the city. Steve leaned out, as the fellow tore at Mona's shoulder, crashed a knotted fist into his mouth. The car rolled on. At length, nearly an hour late, they drew up before the gates of St. Luke's.

Sir Geoffrey glanced at the sullen crowd about the entrance.

"Better come in with me, you two," he said. "I'll lock the car, speak to a policeman. Not safe out here, with these desperate people."

Mona clutched Steve's arm as they went up the steps. In a world suddenly mad, the protection of this tall, red-headed American seemed very important to her.

"Stick close, honey," Steve said, smiling.

The big room on the left of the hall was blue with smoke. Half a dozen grave-faced men sat about a table, studying a curiously-marked map of the city.

"Ah! Sir Geoffrey!" A slim man, with dark, hollow eyes came forward. "We were afraid the condition of the roads would delay you. This is Mr. Vareth-Martin, from the Home Office. Dr. Morton, Sir John Alwith, Dr. Fabian, I think you know. And Dr. Con-

rad Stengel." He motioned toward a thick-set bespectacled German sucking a huge, unlit pipe. "Discoverer of the poliomyelitis germ and Berlin foremost pathologist until politics forced him to leave his home and seek refuge here."

Sir Geoffrey greeted the others, unsmiling.

"My daughter Mona, gentlemen," he said. "And Mr. Stephen Ingram, a friend. I was afraid to leave them outside."

"We understand." Vareth-Martin nodded. "Well, Sir Geoffrey, Dr. Willis has just given us the rather discouraging report of the Emergency Medical Committee. No progress, so far. No germ isolated, the means of transmission undiscovered, and no method of checking its spread. All hospitals are overcrowded and the death toll mounts alarmingly in the stricken areas. Accompanying disorders, fires, looting, panic, are hampering our efforts. The first few cases, recorded several weeks ago were in the vicinity of Croydon. Since then it has become a zone, roughly circular in shape, including Beckenham, Bromley, Wimbledon, Kingston, and spreading daily. We here are near the edge of this zone. Perhaps tomorrow St. Luke's will be within it although the direction of its spread is never certain." Vareth-Martin paused solemnly, his face lined with concern.

"In the past two weeks thousands of refugees have fled London to the rural areas, carrying with them, perhaps, the plague germs. Industry is at a standstill and all foreign governments have already forbidden trade with Britain for fear of plague germs being carried to their countries. England is isolated, faced with terrible extinction. Gentlemen, in your hands and the hands of similar volunteer medical units, rests the fate of the Empire!"

AS Vareth-Martin ceased speaking, a heavy silence fell over the room. Dr. Willis stood up, a frown on his sallow, thin countenance.

"Gentlemen," he said gravely, "there is little more to be done here. We have all been appointed to certain tasks. Sir Geoffrey, of course, will work in our laboratory. Dr. Stengel will carry on his own investigations at his place of residence. I shall continue my work in the zone as" . . . he coughed hackingly, gripped the table to steady himself . . . "as I have done for the past week. It is now" . . . he glanced at his watch . . . "six o'clock. I make a motion that we adjourn."

With grim nods the others agreed. Steve, who had been staring fixedly at the stonework of the window-sill, touched Willis' arm.

"May I see your watch?" he asked. "Mine's stopped . . ."

"Surely." Willis handed him the timepiece, a cheap nickel affair.

Steve adjusted his own watch, passed it back. A moment later he and Mona had joined Sir Geoffrey and Dr. Stengel at the door.

"We're taking Dr. Stengel home," Wicke announced. "It means going through the plague zone, but I want to have a look at it anyhow. Steve, you'll drive. Mona, I think you'd better remain here. . . ."

"No." The girl shook her head. "I'm going with you!"

"So, Miss Wicke," Stengel said in his clipped, curiously out-of-breath voice. "You put these cowards who run away to shame!" Bowing ceremoniously, he held open the big hospital door.

The street outside was wreathed in swirling fog. At the dispensary door a line of bent, spectral figures were waiting admission. Through the opaque mist could be heard their hollow coughing, their feeble gasping voices. As Sir

Geoffry, Stengel, and Mona climbed into the car, Steve hung back for a moment, staring fixedly at the grey stone front of the hospital.

"Steve!" Sir Geoffry called. "Coming?"

"Right!" Steve's fingers brushed against the cement joint between two of the big stones, knocking loose a shower of sand. Frowning, he turned away, climbed into the driver's seat of the big sedan.

"Directly into the zone," Stengel murmured. "Toward Beckenham."

Silently, Steve obeyed. And idea, an idea terrifying, well-nigh incredible, was beginning to take shape in his brain. He stared fixedly ahead, trying to piece together the odds and ends of the puzzle.

THE streets were growing more deserted now. Ambulances rolled by in long rumbling rows; Red Cross stations in abandoned shops, houses; and more ghastly than anything else, huge trucks laden with sheeted corpses heading for the disposal furnaces. Warning signs greeted them at the edge of the danger zone but Steve urged the car on. Soon the streets were completely empty, dark canyons shrouded in ghostly white fog. The lands of death, Steve thought. He glanced at Mona, patted her hand reassuringly. On the rear seat Dr. Stengel was talking in short, jerky sentences.

"... new, invisible germ!" He paused, sucked at his eternally unlit pipe. "Transmitted by contact, *nicht wahr?*"

"Germ?" Steve shook his head. "Something bigger, doctor, more terrible. Some strange, satanic force..."

"Ach!" Stengel chuckled. "So unknown things always appear! Soon it will seem nothing. There will vaccines or inoculations be!"

"Perhaps." Steve glanced in the rear-view mirror at Sir Geoffry's lean, weath-

erbeaten face. "But as far back as St. Luke's, outside the present zone, I noticed definite evidences of a breakdown of..."

A loud crackling sound from somewhere above drowned out his voice. As in a dream he heard Mona scream. The car rocked crazily, dust blotted out all vision. A sickening crash, the thud of falling objects, and then... oblivion.

Steve Ingram's first sign of consciousness was Mona's voice, repeating his name, endlessly. Shaking his head, he dragged himself up to one elbow, stared dazedly about.

"Steve!" Mona knelt urgently beside him. "How do you feel?"

"All right," he murmured, touching the lump on his temple. Then, glancing at the battered car, half-buried in stony rubble. "What... was it?"

Sir Geoffry, disheveled, covered with brick dust, frowned.

"The cornice of that house, there, fell onto the car," he said. "A miracle we all aren't dead. Queer thing! The building looks solid enough. You might think someone had tried to... but that's nonsense, of course."

Steve glanced up at the house, nodded thoughtfully.

"Where's Dr. Stengel?" he asked.

"Stengel?" Sir Geoffry asked. "Odd, that. I pulled him out of the wreckage; he was badly shaken up, bruised. The first thing he said was, 'Where's my pipe?' Naturally I didn't know where it was. He nearly went wild, then. Rooted in the rubble for perhaps five minutes, while we were working over you, muttering about his pipe. Then, all of a sudden, he sprang to his feet, commenced to run. I tried to stop him, but he disappeared in the fog. I'm afraid he must have gotten a severe jolt on the head. Hate to think of him in that condition wandering about this hell."

"Damn queer." Steve set his teeth,

pulled himself upright. As he did so, Sir Geoffry bent, picked up an elaborately carved meerschaum.

"Stengel's pipe!" he muttered. "You must have been lying on it!" He stared a moment at the big meerschaum, dropped it into his pocket. "I'll give it to him, next time we meet."

STEVE nodded, still somewhat dazed, turned to Mona. The girl swayed unsteadily, gripped her father's arm.

"Sorry," she whispered. "Feel a little faint. . . ."

Steve glanced at her, frowning. That burning sensation in his eyes, his lungs! They had to get out . . . get out of the plague zone! Suddenly, from somewhere behind him he heard a warning rumble, and the street shook. Gasping, Steve whirled about. The massive stone arch of an overpass some two blocks away was beginning to crumble! Sir Geoffry swore, wide-eyed. Great blocks of granite were tumbling from the bridge, clouds of dust arising. All at once, in a tangle of twisted girders and shattered stone, the overpass collapsed!

"God!" Steve stared at the clouds of dust, rising like smoke to mingle with the fog. "London's falling down about our ears! We've got to get away! Quick! Come on!"

He and Sir Geoffry supporting Mona on either side, they commenced to run. To Steve, it seemed a weird incomprehensible nightmare. The patter of their own feet in the silent, empty streets, the occasional thunder of falling masonry, the stench of rotting flesh, and the lean, wolf-like things that slunk away at the sound of their approach. Eons, it seemed, that they ran. Sir Geoffry's breath came in harsh gasps; Mona was all but unconscious; Steve, sick from the ache in his head, the burning of his lungs, staggered on by force of will alone. Suddenly lights gleamed in the

fog ahead, voices echoed hollowly. Steve heard Sir Geoffry mutter, "Red Cross station," and "edge of zone" . . . and then something seemed to snap in his brain and the world dissolved into dim shadows.

CHAPTER II

Steve's Suspicions

SIR GEOFFRY WICKE slumped over the laboratory table, his red-streaked eyes dull with despair. For five days he had worked, with only brief snatches of sleep and rest, seeking to isolate the germ of the yellow death. Five mad, feverish days, shifting his equipment from place to place, retreating before the deadly plague zone.

Wearily Sir Geoffry glanced at the map on the wall. New zones had sprung into being since that day when he had come to London. Outlined in crimson on the map, they seemed great sores, spreading over the surface of the city. Sores . . . like those which dotted the skin of the victims of the yellow death.

He closed his aching eyes, tried to think. Tortured faces haunted his brain. Blind, agonized faces, eaten into shapeless, crimson blobs, racked with coughs, crying in hoarse, inhuman voices for the help that did not come. And the collapse of the buildings . . . what lay behind that? Bridges, subways, tall skyscrapers, crumbling into shattered ruins. The day of doom for London, perhaps for all England, all the world. Already the toll had mounted to nearly three million lives.

Drawn by a macabre fascination, he strode to the window, peered out. A man-made inferno, the city seemed. Fires, the result of shorted wiring, lit the sky with a terrifying ruddy glare. Dimly he could hear the crash and rumble of falling masonry, the screams of

pain from the dying plague sufferers in the emergency hospital below. In the square a great heap of yellow-skinned corpses was being soaked with gasoline preparatory to cremation. A moment later the funeral pyre blazed up, with a sickening smell of charred flesh. Sir Geoffry shook his head dazedly. Unreal, horrible! Sights such as this in staid old London!

Footsteps sounded in the hall outside and a dark man wearing the uniform of the Plague Volunteer Workers entered the laboratory.

"Today's reports, Sir Geoffry." He turned to the map, red pencil in hand. "Zone one spreading west. Zones two and three are merging near Tottenham. The new zone four is sweeping along the embankment. The death of the first Lord of the Admiralty, the Foreign Secretary, and many members of Parliament is reported. St. Paul's and the Bank of England are beginning to crumble and the government archives are being moved to Manchester. The fires are increasing and the food shortage is growing more acute. Outbreaks of violence . . ."

"All right, Henly." Sir Geoffry dismissed the man with a wave of his hand, bent to study the bit of lung tissue beneath his microscope. Perhaps the use of a blue dye might reveal. . . .

Footsteps again interrupted the doctor. Impatiently he glanced up. Steve Ingram, his face drawn, pallid, stood on the threshold.

"STEVE!" Sir Geoffry frowned. "You've no business up with that concussion! You've been in bad shape since that day in the zone, Mona tells me. You ought to be in bed!"

"Bed?" Steve laughed weakly. "Lie around nursing a simple concussion when every bed is needed for people dying of the plague. I've got to do my

part in the struggle." He turned to the window, stared moodily at the flaming, smoking hell that marked the huge, ever-growing zone one, the first and most terrible of the plague areas.

"What is it?" Steve whirled around, his eyes aflame. "You know it's no plague, no disease! It's destruction! Destruction of life, of vegetation, of stone and steel! An alien, unknown force, Sir Geoffry, bent on reducing this city to a lifeless, barren desert! Destruction, and mankind is powerless to stop it! If only someone could go into the zones, study the reactions closely. . . ."

"No use." Sir Geoffry shook his head. "Of our last three expeditions not one man returned. Suicide to enter the zones. So many of our greatest scientists have tried, and paid with their lives."

"Stengel, too?"

"No word from him since that day you were hurt." Wicke glanced the huge Dutch pipe on the mantel. "Poor old Stengel!"

Steve picked up the pipe, examined it curiously. The bowl was deep, long, and the hole in the stem unusually large, as big as a lead pencil. Steve thought of Stengel's ceaseless sucking at the unlit pipe, his curious manner of speaking as though out of breath. He stared at the charred tobacco at the top of the bowl, poked at it thoughtfully. All at once he straightened up, his eyes glowing fiercely.

"Sir Geoffry! Where did Stengel live?"

"Eh?" The toxicologist fretted with his moustache. "Why, on Kenyon Street . . . 641 West, I believe. Why?"

Steve turned to the map on the wall, pored over it closely.

"Kenyon Street!" he exclaimed. "Just what I thought! The direct center of zone one! Sir Geoffry" . . . Steve

laughed harshly . . . "if anyone wants me, tell them I'm going to return this pipe to its owner!"

And before the doctor could stop him, he had clattered down the steps, dashed into the street.

IT was a full hour later when Steve Ingram approached the edge of the plague zone. His face was pale, set; the pockets of his coat bulged with packages. For just a moment he glanced about the little outpost, with its Red Cross station, its ambulances, its trucks, then, facing toward Croydon, he plunged into the silent, deserted streets of the zone.

Utter desolation lay before him. Rows of houses, some intact except for fallen cornices or broken windows, some mere heaps of rubble. In spots where the subways had collapsed, yawning crevasses gaped, and fallen electric wires, sputtering viciously, lay like giant snakes to strike the unwary.

Steve had penetrated several blocks into the plague zone when he felt that stinging sensation in his mouth, his nose. Halting, he drew from his pocket two packages, one, a small cardboard containing a white powder, and the other a roll of damp bandage. Steve was just sprinkling the bandage with powder when he heard footsteps behind him.

"Steve!" a familiar voice cried. "You can't! It's suicide!"

"Mona!" He whirled about, terrified at the thought of her pale, poignant beauty in this place. "How did you know?"

"Dad. He told me." She placed a hand upon his arm. "No one can live more than an hour or so in the heart of the zone, Steve. Come back now while there's a chance!"

"I can't." He shook his head stubbornly. "If I can find Stengel, I may

be able to learn the cause of the yellow death. I've got to go on!"

"If you go I'm coming with you," the girl said bravely. "Sink or swim, Steve, for both of us!"

"All right." He nodded, admiring the girl's bravery. "Keep this on no matter what happens." He tied a length of bandage, liberally coated with the white powder, about her head, covering her nose. "Breathe through it and don't open your mouth."

Mona nodded, watched him curiously as he impregnated another strip of bandage, wound it about his own head. A moment later they were heading south, toward the heart of the plague zone.

MEMORY of that walk was stamped in a series of vivid, kaleidoscopic pictures upon Mona's brain. Shadowy streets, the gibbous moon veiled in smoke, the utter desolation of the once-populous area. The horrible sprawling figures that lay here and there among the ruins . . . some, yellowed, festering, eaten away . . . some, black, bloated, decomposing . . . some mere, rag-clad skeletons.

Once, in passing a deserted grocer's shop they saw lean, bony creatures pawing over shelves of food. Living things, inhuman, their red eyes gleaming through matted hair, their features transformed by the ravages of the plague into grim travesties of mortal life. Gibbering, shrieking, they stuffed their foam-flecked mouths with canned delicacies, fighting like beasts over choice morsels. For months after Mona could not drive the memory of their furious howls, their insane, screaming laughter, from her mind.

Nearly an hour passed but still Steve led the way forward, glancing at such street signs as remained standing. The girl's eyes were beginning to ache, her

skin to burn. Twice they barely escaped death when houses near them collapsed; and on one occasion a blazing filling station, its gasoline tanks ignited, exploded, spattering them with fiery embers. And still Steve plunged forward.

Mona was staggering from exhaustion when Steve gripped her arm, motioned for her to stop. Ahead of them was a house, dark, forbidding, yet curiously intact in the rows of completely demolished homes.

Slipping from shadow to shadow Steve and Mona moved closer to the big, gloomy house. As they approached, several queer features became at once apparent. For one thing, the mortar between the bricks shone with a peculiar glass-like sheen; a protective coating of some sort, Steve decided. Then, too, the windows of the old house were tightly sealed, puttied into place. What held Steve's attention most of all was the peculiar action of the smoke above the roof. Drifting over in huge billows from some nearby fire, it twisted into sudden action as it passed above the house. Swirling, eddying, the clouds of smoke seemed in the grip of mighty forces; they were like tenuous black dragons, thrashing in agony against the fire-lit sky. Mona was watching, puzzled, when Steve spoke.

"Come on," he muttered. "We're going in!"

SHE followed him across the street, saw him root among the debris here for a moment, come up with a short iron bar. Wedging this beneath one of the windows, he gave a quick jerk, forced it open.

"Now!" He helped Mona through the opening. "Quiet!" A moment later he had joined her, closed the window behind them.

The room was small, shadowy in the

dim light from outside; it was apparently a study of some sort. Steve lit a match, glanced at the heap of papers on the big desk.

"Look!" He studied a gleaming steel paper knife, saw that its surface was undimmed. "Safe to take off our bandages now! The air's pure here! And notice these letters! From the Gestapo headquarters in Berlin! Stengel came to this country claiming to have been run out of Germany for political reasons! He . . ."

A click of a door sent him spinning about to face the entrance of the study. Dr. Stengel stood in the doorway, smiling blandly.

CHAPTER III

Prisoners

"HERR INGRAM," Stengel murmured. "And *Fraulein* Wicke! *Guten abend!* To what happy chance . . ."

"We're here . . . to return your pipe." Steve took the big meerschaum from his pocket. "It was only a few hours ago I discovered why you never lit the pipe, why you sucked at it so queerly. Very ingenious, Dr. Stengel, to put a filter in the bowl, breathe through the large hole in the stem. By using the same type of protection, common bicarbonate of soda, we were able to come through the plague zone unharmed. Obvious, now, why you acted so strangely the day you lost the pipe; you were afraid to remain in the zone without your filter. And it's odd, too, isn't it, doctor, that the very day you were telling the Emergency Committee how baffling the plague was, you were using the proper protection in that filter!"

"Good." Stengel nodded. "You Americans are clever! I regret that I must detain such intelligent and" . . . he bowed to Mona . . . "charming com-

pany." Then, raising his voice, "Ernst!"

"Quiet!" Steve's hand swept to his pocket, reappeared clutching a heavy automatic. "Stengel, you're leaving now, with us! Back toward that window and keep your hands raised!"

"Very dramatic." Stengel peered mildly over his gold-rimmed glasses. "But useless, I fear, Mr. Ingram. You see . . ."

A shrill scream from Mona drowned out Stengel's words. Steve whirled, caught a momentary glimpse of a huge, shadowy figure, dark, menacing. At the same instant a gun-butt crashed against his head and he slumped weakly to the floor. Dimly Steve remembered being carried by the giant Ernst along corridors, through dark rooms, with Mona and the doctor walking at his side. At length Stengel paused before a heavy iron door, unlocked it; he waved Mona across the threshold and spoke crisply to Ernst in German. The big man nodded, shoved Steve through the entrance, and slammed the door shut.

"Steve!" Mona whispered. "You . . . you're all right?"

"Sure." He staggered to his feet. "Just a glancing blow. Stunned me. But we've got to get out of here, reach Sir Geoffrey. Stengel knows the secret of the plague! Don't you see? Six months ago he arrives in London, claiming to be a refugee. Now with England helpless, Germany can demand Canada, Egypt, India, whatever she wishes! And get it!"

"You think Dr. Stengel is responsible for all that's happened?" Mona's eyes widened with horror. "But how?"

"I don't know." Steve shook his head. "You remember my looking at Dr. Willis' watch the first day we arrived in London? And examining the mortar between the stones of the buildings? I noticed the nickel of his watch was pitted; the cement eaten away. Not only does

this hellish invention of Stengel's eat away human tissue, but steel, cement, rubber . . . just like an acid!"

"An acid!" Mona repeated. "That would explain the yellow skins of the bodies. But there isn't enough acid in the whole world to destroy London! And where would he get the tons of raw material to make it?"

"That's what's been puzzling me for days," Steve muttered. "But whatever it is that's wiping out the city, Stengel alone knows the secret. We've got to escape, tell the police to raid this house!"

SETTING his jaw firmly, he commenced to examine their prison. The room was small and quite empty, apparently a storeroom of some sort. A window at one end opened into a walled yard; like the others in the house it was tightly sealed, and iron bars crisscrossed the aperture. Steve stared at the window, his eyes dull with despair.

"No hope there," he muttered. "Unless . . . Mona! Look! These bars are outside! They must be pitted, eaten, like all other iron! Here!" He took the strips of bandage, the box of soda, from his pocket, made new protective masks. Then, thrusting his shoulder against the pane, he smashed the glass.

The bars were, as Steve predicted, deeply eaten. Gripping them firmly, he wrenched with all his strength. Once, twice, three times, his lean muscles cracking. Suddenly the grating tore loose from its setting sent him sprawling on the floor.

"All right," he whispered. "It's an easy drop."

Mona nodded, climbed through the opening, lowered herself lightly to the ground. A moment later Steve stood beside her, his eyes roving warily about the yard, striving to pierce the gloom.

"Wall's too high to climb," he mut-

tered. "And there's no gate. Let's try the door leading to the garage."

Silently, avoiding the occasional patches of moonlight, they made their way toward the garage. Steve tried the door, found it open, and stepped inside. A single feeble bulb showed the garage to be empty, the big swinging outer doors to be securely padlocked. Steve drew a sharp breath of disappointment. Every avenue of escape seemed blocked. Suddenly his eyes fell upon a square piece of wood set in the floor of the garage; sunk in the wood was a massive ring.

"A trapdoor!" Steve bent, tugged at the ring. Moving easily on well-oiled hinges, the trap swung back. Rough stone steps, gleaming slimily with moisture, led down into the vague darkness below.

"Anything's better than waiting here to be found." Steve started down the stairs. "Stay behind me, Mona."

The steps ended some ten feet below the garage. A dark tunnel, leading toward the house, faced them. Cautiously they groped their way through the gloom, muscles tensed for possible traps or pitfalls.

"This is used for bringing in supplies, I think," Mona whispered. "They could run a loaded truck into the garage at night, carry their equipment to the cellars of the house without being observed."

"Right!" Steve nodded. "And . . . look! Light ahead!"

Silently they crept along the corridor. Mona's heart thumped furiously; her breath came in gasps. All at once the passage turned sharply to the right. Ahead of her, Steve froze into immobility.

BEFORE them lay a huge room, brilliantly lighted; from its vast size Steve supposed it to be an aban-

doned air-raid shelter, built during the war scare of 1938. Fully half of this space was taken up by large paper sacks, of the size and shape of cement bags. Thousands upon thousands of them, piled up to the ceiling. The remaining space of the cellar was taken up with a gleaming array of glass tubing and a powerful electric motor. Busily engaged in emptying the contents of one of the sacks into a great glass sphere was the giant Ernst, his dark countenance set in a sadistic grin.

For just a moment Steve stood still, studying the scene before him. The gigantic, black-browed German was, he knew, more than a match for him. Yet, if he could take the man by surprise, try to get in a telling blow before Ernst was aware of his presence . . .

Softly he inched closer to the giant, while Mona, standing in the mouth of the tunnel, held her breath. Now Steve was only six feet from his opponent . . . five . . .

All at once Ernst, warned by some hidden instinct, whirled about. As he did so, Steve dove across the room, arms outstretched. The big man, taken off balance, toppled backwards. In an instant Steve was upon him, raining blows into his face. The experience of the past few days, however, had robbed Steve's punches of their sting. The brawny German, recovering from his initial surprise, lunged forward, locked his muscular fists about the American's throat.

Mona, watching, swayed weakly. Steve, his face crimson, his eyes bulging, the breath rattling in his throat . . . and above him the grinning Ernst, his inexorable grip growing tighter and tighter . . .

Suddenly Steve braced himself for a final effort. Drawing his legs up, he kicked out with all the strength of his wiry frame. His opponent, unprepared,

shot across the room, crashed into the wall. There was a sharp crack as his head hit the brick partition and he slumped to the floor, a still, sprawling figure.

"Steve!" Mona ran to join him. "You..."

"Lu—lucky, that's all!" He snatched up a roll of wire, lashed Ernst's hands and feet. "Let's have a good look at this machinery!"

THE apparatus, upon closer inspection, seemed to Mona baffling. It commenced at the far end of the cellar, where a heavy pipe entered through the house wall to form an air intake. A powerful electric pump, drawing the air from the outside, forced it into the gleaming six-foot glass sphere... the same sphere into which Ernst had emptied the contents of one of the paper bags.

Thick greyish powder swirled and danced inside the globe. From the other side of the sphere a second pipe led toward a fireplace, disappeared into the chimney. Here, there was a screw valve to regulate the amount of powder blown into the flue.

"Simple enough," Steve muttered. "Air sucked in catches the grey dust within the glass globe, forces it through the outlet pipe into the chimney. Jets it out into the air to drift over London... Mona! This grey powder must be causing the invisible destruction of the city!"

"But"... she glanced at the swirling dust inside the sphere. "I don't see..."

"I don't either." Steve shook his head. "I was willing to swear that it was an acid. Making the globe of glass would bear that out. But there wouldn't be enough acid to..." For a long moment he was silent, staring. All at once his shoulders snapped back. "God! Why didn't I think of that possibility?

A catalyst!* Enough nitrogen and oxygen in the air to make unlimited amounts of nitric acid! Filling the air with it, to burn away human lungs, destroy cement, steel, stone... to make a shambles of London! Millions of deaths, untold destruction, all through..."

"This—this grey powder?" Mona whispered. "Such a comparatively tiny quantity?"

"It's not tiny!" Steve exclaimed. "The reaction takes place on the surface of the catalyst particle. Now assuming one gram... .455 c.c.'s... of the substance were divided into particles of a radius of one millionth of a centimeter, the total area of particle surface in one gram would be approximately 1500 square feet. Don't you see? Fifteen hundred square feet of acid-producing surface from only one gram! And there's tons of it from this and other distribution centers in the city! And remember, each square foot of particle surface goes on producing acid indefinitely, using the air's inexhaustible supply of nitrogen and oxygen! It's fiendish..."

"Words of praise, my friend," said a mocking voice behind them.

STEVE and Mona whirled about. At the other end of the room stood Stengel, smiling sardonically. A gun gleamed dully in his hand.

"So," he chuckled. "You have done well. Almost I regret what I must now do. Yet another life or two means nothing."

*A similar process would be the manner in which the chlorophyll of plants can utilize the sun's energy to create chemical changes. This is known as photo-synthesis. It would seem that Stengel's grey powder is an organic catalyst utilizing the sun's energy to unite oxygen and nitrogen into nitrogen peroxide which would in turn unite with the moisture in the air to create nitric acid. Thus, each particle of dust would be a miniature acid factory, giving off hundreds, thousands of times its own weight in nitric acid.—Ed.

ing. For through me, me, Conrad Stengel, will the Fatherland win new lands, new glory! With this nation of shopkeepers helpless, nothing can stand between us and domination of Europe! *Ja*, perhaps America as well, if the 'plague' . . . he chuckled again . . . "should 'spread' to that country! And you two who alone know my secret must be disposed of!" Eyes gleaming with a wild fanatic light, he raised the revolver.

Mona's cheeks went grey. Huddled against the fireplace, her deep, tortured eyes flickered toward Steve; his hands, she noticed, were behind his back, seemingly twisting something. The room was silent, except for the steady hammering of the powerful suction pump. Stengel was standing beside the great glass globe, empty now of its deadly dust, his face tense. Another moment or so . . .

"Just a second, doctor." Steve was speaking, forcing his voice to remain calm. "I'd like to satisfy my curiosity before I die. How does your process work?"

Stengel grinned, gave a simper of vanity.

"Simple, my boy, *ja*, simple. The energy is obtained from certain light rays at the violet end of the spectrum, which, incidentally, makes the process only active in the daytime. Oxygen and nitrogen on the surface of the particles are absorbed. So we have energy + N₂ + 2O₂ → 2NO₂ or nitrogen peroxide which in turn units with the moisture of the air . . . London fogs are an admirable medium . . . and we have 3NO₂ + H₂O → 2HNO₃ + NO. The NO (nitric oxide) which is liberated, interacts with oxygen in the air to form NO₂ as the reaction with water is continued. As for the catalyst, it is an organic compound, mainly magnesium, with heavy metallic atoms at the end of a long carbon chain

and is . . ."

Steve did not seem to be listening. His eyes were on the big glass globe. The motor, pounding away, seemed suddenly labored. Mona, a pale wax-works figure, heard Stengel's voice dimly . . . "and now you know, *nicht wahr?* So with your tragic curiosity satisfied . . ."

His gun was raised once more. Stengel's expression was stolid, cold. Steve was leaning forward anxiously, his face damp with sweat; he seemed to be waiting. The doctor's fingers tightened about the trigger . . . Suddenly an ominous cracking sound issued from the glass sphere. Stengel's head turned in alarm.

"Mona!" It was Steve's voice, harsh with excitement. She felt his arms seize her, drag her to the floor.

As he did so, a shattering explosion rocked the room. The globe flew into a thousand pieces, showering them with shards of glass. Stengel, standing beside the sphere, slumped to the floor, his face a shattered, crimson, blood-stained mask.

"Steve!" Mona watched him bend over the sprawling, bloody figure. "What . . . what was it?"

"Pressure. Plain ordinary air pressure." With deft fingers he was binding the doctor's torn face. "I just reached behind me, closed the valve that regulated the flow of air to the chimney. With the motor running and no outlet, the glass 'mixing chamber' had to burst. And now . . ." Steve straightened up . . . "We can go through Stengel's papers, get the location of the other zone centers. Scotland Yard men, using the soda air-filters, can raid them, shut off the flow of the catalyst into the air. Then, working with anti-acid apparatus . . ."

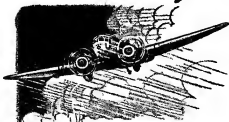
"London will be safe," finished Mona, her eyes shining happily.

RIDDLES OF SCIENCE

The Nature of Thought.



THE HUMAN BODY, IN ALL ITS THOUSANDS OF FUNCTIONS, IS GUIDED BY IMPULSES FROM THE SUBCONSCIOUS



BY A MYSTERIOUS PROCESS, THE HUMAN BRAIN CAN CONCEIVE AND CREATE MARVELOUS INVENTIONS. ALL MAN'S PROGRESS COMES FROM THIS SOURCE.



The HUMAN BRAIN



IMAGINATION, ANOTHER UNCANNY POWER OF THE BRAIN, IS RESPONSIBLE FOR THE WONDERS OF LITERATURE, ART, SCULPTURE, AND OTHER ESTHETIC FUNCTIONS OF THOUGHT.



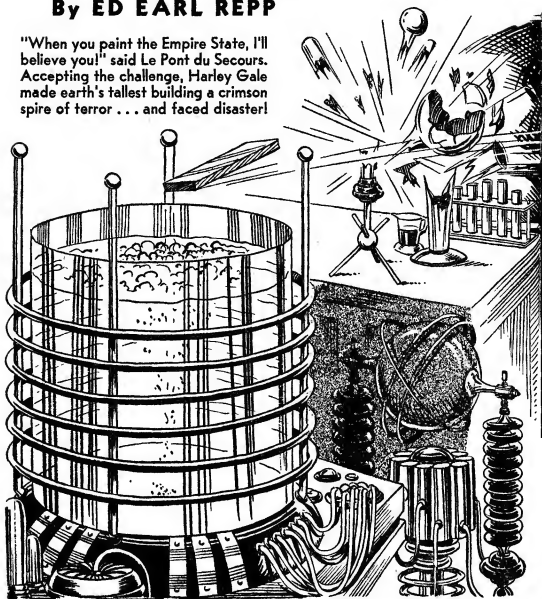
RODIN'S FAMOUS STATUE TYPIFIES THE MOST AMAZING MENTAL PROCESS, THE POWER OF MAN FOR ABSTRACT THINKING; THE CONCEPTION OF THINGS BEYOND THE CONCRETE REALITIES.

SCIENCE has always been puzzled to understand the nature of thought. The human brain is an organism which forms the most complex, and least understood portion of the body. Intense study of it has resulted in many theories, and its structure has been detailed to the last convolution, and the tiniest nerve fibre. But HOW it works is an unsolved mystery. Delicate instruments have measured electrical (or so-called electrical) impulses, emanating from the brain, and it seems certain that something of electricity is present in the process of thinking. Yet even this has been cast into doubt by negative reactions in special cases. What is this mysterious chemical function of a mass of gray matter which is the ultimate basis of all man's power, his mastery of the world?

The Deadly Paint of Harley Gale

By ED EARL REPP

"When you paint the Empire State, I'll believe you!" said Le Pont du Secours. Accepting the challenge, Harley Gale made earth's tallest building a crimson spire of terror . . . and faced disaster!



Like an arrow the metal jumped from his fingers and shot across the room



CHAPTER I

Success and Defeat!

PROFESSOR HARLEY GALE lifted the test tube from the Bunsen burner with a holder and slid it carefully into the slotted crack above the sink. He stood gazing respectfully at the red bubbling liquid within the tube for a moment, then swung his scholarly head to his companion in the private laboratory at Green Bay, Long Island.

"It's done, Wade. It's done!" he breathed excitedly, jerking gold-rimmed glasses from his eyes. "I'm ready for Mr. Le Pont du Secours. I can prove now that enough pigment to paint the Empire State Building can be made in a single test tube!"

The young apron-clothed assistant

gazed incredulously at the scientist. In four months he'd learned much from Gale. He'd learned to respect the professor's judgment and knowledge, admire his tireless energy and almost religious fervor in scientific experimentation. In four months, Wade Henry, expugilist and once Harley Gale's "Gland Superman"* had by his devotion to the

* In "The Gland Superman" (October, 1938, AMAZING STORIES) Dr. Harley Gale, department head at the Mellon Institute, had carried his experiments with the para-Rontgen ray to an extreme in creating a heavyweight boxer out of lightweight Wade Henry. Later, it was only by chance that Gale was able to restore Henry's sanity. Banished by the institute for his dangerous experiment, Harley Gale retired to his own laboratory on Long Island, New York, secure in his share of the prize-fighter's winnings, making him independent. He took Wade Henry, now an out-cast, with him.—Ed.

professor and his own incongruous desire for science became an efficient assistant to the former head of the Bio-Chemistry department of the Mellon Institute.

"In that test tube!" echoed Henry. "You ain't foolin', professor?"

"No, I'm not fooling, Wade," the professor said huskily, "and by this discovery I hope to redeem myself in the eyes of the world. For years I've held that hemoglobin, anthocyanin and lead carbonate could be mixed to form a valuable pigment. And any color in the rainbow can be obtained by adding metallic compounds."

"And that concentrate solution—that stuff in the test tube—can be mixed with water and form paint?" Wade Henry asked.

Professor Gale's forehead was knit with furrows as he answered.

"You've seen it done, Wade," he replied. "The tests we've made prove that the liquid 'vehicle' or the 'medium' to which this pigment is mixed doesn't matter. The color once applied will outlive any other paints, stains or enamels by fifty years!"

"This is going to revolutionize painting throughout the world . . . like boxing gloves did to the fight game after John L. Sullivan K.O.'ed Jack Kilrain!" exploded Wade Henry.

"That is exactly why we've got a date with Mr. Le Pont du Secours!" the scientist said decisively.

THE rotund, impressive president of the largest paint manufacturing syndicate in the country lowered himself into the chair Harley Gale shoved forward. His heavy-jowled face was a mask for whatever thoughts lurked behind his cold exterior. Across the laboratory, Wade Henry was nervously preparing the huge containers for the demonstration. Gale, with scientific

disregard for Le Pont's apparent apathy to the entire business, spoke clearly and to the point.

"It was good of you to come. But well worth your while, I believe," the scientist said with conviction. "It takes someone of your capacity to grasp the portent of my discovery, and will require someone of your resources to make it commercial, beneficial and successful."

Mr. Le Pont du Secours stirred with uneasy satisfaction at Gale's eulogy. Then the scientist stepped to the glass rack, took the test tube from it and brought it across the room. He held the thin, long glass up before Le Pont's eyes as he spoke.

"In this test tube there is a chemical mixture—a combination of pigments both organic and metallic. By fractional distillation of the predominant ingredient—hemoglobin,* the chemical which makes blood red, association with the other component substances and further distillation I have produced this concentrate solution. The contents of this test tube mixed with water will produce sufficient paint to cover the entire outside surface of the Empire State Building!"

Le Pont's eye brows lifted slightly, but his face took on a doubting scowl. He sat like a judge listening to the testimony of a guilty man.

"You have proof?" he muttered, his eyes staring into the shrewd face of the scientist.

Harley Gale signaled his assistant.

* Hemoglobin is the normal coloring matter of the red blood corpuscles of vertebrates. It is a compound of hematin, and globin, and ultimate analyses of it lead to formulas such as $C_{128}H_{120}O_{22}N_{16}FeS_4$. It crystallizes in different forms from different animals, and apparently there are several different varieties. Hemoglobin proper is found in venous blood; combined loosely with oxygen, as in arterial blood, it is distinguished as oxy-hemoglobin, which has a brighter color. Hemoglobin forms stable compounds with carbon monoxide and nitric oxide.—Ed.

The former prizefighter moved a huge tub filled with water over to where they stood. From his pocket he took a glass pipette, a long thin tube open at both ends used for raising small amounts of liquid. Wade passed it to the professor.

"Watch!" commanded Gale tersely to the paint manufacturer, dipping the end of the pipette into the test tube.

His forefinger sealed the other end of the tube, holding a half-drop of the deep red liquid by capillarity. Over the tub of water, Professor Gale released his finger. Le Pont bent forward now. Gale saw the man's eyes widen as the red drop spread across the surface of the water, blanketing the top with a blood-like film. Then through the sides Le Pont watched tiny, bright-red streamers drop to the bottom of the tub. In another instant the whole liquid was a solid crimson color.

Harley Gale's face burned with the light of achievement.

"Now do you believe me, Mr. Le Pont?" he said excitedly. "Now do you see I have what is probably the chemical discovery of the century—ready for use!"

"Discovery of the century!" barked the paint manufacturer derisively. "What you've shown me was done in Solomon's time, Dr. Gale. This is a tub of water color, of whitewash colored red! Do you expect me to believe that this—this *soup* you've brewed will form a protective finish coat for material like paint?"

HARLEY GALE'S eyes blazed confidently. His hand grasped the flats of wood which Wade Henry had ready for him. He laid them side by side on the floor before the paint mogul. His finger indicated each red-coated stick of wood as he named his proof.

"The finish on each of these boards

came from a batch of my 'soup,' Mr. Le Pont, prepared exactly as you saw me mix it today. This stick—" he said, pointing, "—was painted three months ago. Since that time it has been subject to a mechanical rainstorm equivalent to 60 years of average weather. This next board has been alternately baked and frozen to stimulate those climatical conditions over the same span of years. Each of these other boards with what you call my 'soup' on them has been rigorously tested."

The paint manufacturer rose to his feet. He moved across the room. There he stood, hands clasped behind his back, looking from a window of the laboratory. Gale followed him.

"This concentrate will work as efficiently on iron, steel, stucco, brick or stone. In soluble form it dries hard never penetrating more than an eighth of an inch into the material. Think what this discovery means!" the scientist cried. "Think what it will mean to the paint industry!"

Mr. Le Pont turned from the window. His jaw was hard but his voice purred.

"That is exactly what I *am* doing, Dr. Gale," he said flatly. He paused for a moment, seemed to be thinking. "Your discovery will reduce cost of shipping paint. Granting what you say is true, a gallon of your 'blood pigment' might cover a small city. That means money saved. The cost of the ingredients and the preparation of them is probably—"

"One hundred times less than the method used today!" interrupted Harley Gale enthusiastically. "And think what will be saved by using water *only* as the liquid 'vehicle!'"

Le Pont du Secours' cold smile found the scientist's anxious face.

"Did you say 'saved,' Doctor?" he clipped caustically. "Do you *really* understand what your discovery would mean to my business? Are you blind to

the effect of such a chemical on the paint market . . . on the equipment in my factories . . . on the —”

Wade Henry had shouldered to Professor Gale.

“On your pretty little racket, big shot!” finished Henry sharply. He clapped a hand on the stooped shoulders of the white-haired scientist. “What this bird means is that he isn’t playing ball cause it’d spoil his game, boss!”

Le Pont du Secours had whitened under the assistant’s remarks. He controlled himself with an effort. Then buttoning his coat he stepped to the door. Bewildered, Harley Gale took a step after him.

“You mean you aren’t interested,” he cried, unbelieving. “You won’t sponsor this discovery merely because it means discarding the old for the new?”

Mr. Le Pont’s board-room mannerisms had returned to him completely now. His tone was hard, decisive; his eyes shrewd, black orbits sunk in a large head.

“For the sake of the record, Dr. Gale,” he said, and the implication was as plain as the large diamond on his finger, “I have decided that your discovery is impractical. I find it convenient to doubt your claim that in your test tube you have sufficient chemicals to paint the Empire State Building.”

Harley Gale’s face was as red as the liquid in the huge glass tank when he stammered: “But it’s true!”

“Then paint it!” laughed Mr. Le Pont du Secours slamming the door behind him.

CHAPTER II

Blood Pigment Spreads!

PROFESSOR GALE ran a shaking hand through his disheveled mop of

hair. For a moment he stared at the door out of which the paint mogul had gone. It was difficult to understand, bitter to accept—this blunt refusal of Le Pont. He’d met defeat before—in the laboratory; met it and gone on with grim determination. But to find the petty selfishness of man a stumbling block in the scheme of scientific progress was a force Professor Gale never could comprehend. He tried coolly to shake Le Pont from the picture with a shrug. But this man couldn’t be disregarded in a project of this kind. The manufacturer was too powerful, his control of this field too autonomous; he was a man to be won not fought.

And Le Pont had said: “Then paint it.” Paint the Empire State Building and prove what he believed? The sarcastic effrontery of the remark seemed so unfair, so ill-mannered and so preposterous. But as Harley Gale turned back to the white-domed laboratory, mechanically moved to the apparatus which cluttered the center tables, his mind burned with the precise contemplation of a scientist.

Wade Henry had unclenched his fists with a last look in the direction of the door. He stepped lightly to where the professor was already at work. His blunt comment expressed the thought Harley Gale had left and rejected the minute he’d felt it.

“I’d like to bust that bird in the puss!” he muttered. “But don’t let it get you down, Doc. How’s about knocking off and getting some shut-eye?”

The scientist smiled. It was good to have a practical roughneck like Henry around. The ex-pug served as an escape valve for his thoughts. Then the professor’s smile vanished, and the familiar tightness rode his features.

“Sleep?” he asked with a display of astonishment. “It’s early, Wade. We’ll work. It’s better for me. Get that bad

taste out of my mouth."

It wasn't early, Wade knew, chuckling to himself. It was nearly midnight. With a sigh he moved closer to the table. Gale wanted to work. That meant another all night session. But he didn't mind; he was used to it.

"More pigment, boss?" he queried.

"No," Gale answered almost angrily. "Drain the jug. Put the rest of the concentrate back in the rack. We'll work on this!"

PROFESSOR GALE'S gesture covered the equipment before him. A corked beaker stood on the cluttered table next to a row of wet batteries, hooked in series. Wires ran from the batteries to two lead plates beside the glass jar half-filled with a greenish fluid. A scum floated on the top of the chemical.

This was Harley Gale's second love; blood pigment the first. This was the set-up which he hoped to produce "molten magnetic energy." Alternating their researches with the pigment, they were trying to put magnetic force in fluids. If attained, it might mean plenty. A magnetic liquid sealed in a vacuum would do things no metal bar, no loadstone could ever do. Gale believed that in this form magnetic force would be stronger, more easily handled than even the most compact electro-magnet.

Wade Henry replaced the test tube beside the row of others, drained the blood-red tank and returned to the table. He helped the professor into his white smock, held rubber gloves as Gale slid his long fingers into them.

Gale pulled the covered beaker to him, withdrew the glass stopper. A pungent odor came from the neck of the bottle. He peered down at the liquid.

"A vile compound, Wade," he said,

"but I'm convinced its properties can be endowed with the power to attract. If magnetism can be given to other substances—iron, steel, nickel, cobalt and chromium—why not a fluid, an acid?"

Wade Henry scratched his head. "But I always thought magnets were metal?"

"They always have been," Gale agreed. "But the exact nature of magnetism is not yet fully understood. We suspect it is the position of the molecules in a substance that cause it. Materials can be magnetized in respect to the ease with which they can be permeated. Soft iron, for example, is magnetized very easily. But being soft, it loses its magnetism very quickly."

Henry concluded proudly: "Then liquid ought to be a cinch to magnetize . . . it's plenty perme—permeab—"

"Permeable!" Gale helped him with a smile. "Yes, Wade, that is what I believe. This mixture is composed of oxides, primarily lead, calcium and sulphur trioxide. In solution with water they form a lead sulphate plus calcium hydroxide. These molecules, I hope, can be magnetized!" Gale stirred the mixture slowly. He went on. "Get me some cobalt, Wade! Then get the electrodes ready!"

The assistant brought a jar filled with a white, powdery substance. Handing it to Gale, he joined the two lead plates which led from the batteries to a spiral of insulated wire. The spiral exactly fit the inside circumference of the beaker with the green fluid. Henry waited until the professor had added the cobalt salts to the solution. Then he eased the coil down into the jar. A knife switch was fastened near the batteries. At Gale's command he made the connection.

From the wires inside the beaker, bubbles wormed to the surface, breaking through the scum. A whitish vapor

billowed upward to the ceiling of the laboratory.

"Something's screwy!" jerked Wade backing slightly from the table. "It never smoked like that before."

"It's the cobalt!" snapped Gale, watching as the reaction within the jar increased. Perhaps—"

He cut himself short to grasp a small metal bar in his gloved hand. Careful that his sleeves were clear of the liquid he passed the metal slowly over the jar. A frown cut his face as he felt no pull on the wand. He nodded to Henry. The assistant threw the switch. The bubbling stopped and again Gale placed the bar above the liquid.

"No. It doesn't work," said the scientist finally, staring at the jar.

SUDDENLY Harley Gale looked very tired. He flung the steel rods across the table. "I can't think! I can't work! That man—how could Le Pont be so small?"

"Boss," cracked the ex-pugilist, "forget that bird. He isn't worth it. I'd like to wrap this coil around his neck!"

Professor Harley Gale straightened as if he'd been shot. "What did you say?"

Henry, startled, answered: "I said I'd like to wrap this coil around his neck!"

The scientist whirled. His eyes tunneled at, through and beyond Wade Henry. Then his gaze dropped upon the acid-filled beaker on the table.

"Around his neck . . . around . . . !" he breathed excitedly. "That's it! Around the jar—not in it!"

Wade Henry stood back as the scientist fished the spiral of wire out of the liquid. He watched, puzzled, as Gale widened the coils and began wrapping them on the outside of the jar. He worked feverishly as if against time.

"It's a hunch—but a good one!" the

scientist exclaimed, curving the last strand at the top of the beaker. "We've been submerging our magnetic impulse in the fluid. Perhaps it should be *outside* the container itself."

Gale waved his hand and Wade Henry pushed the knife switch into place. Tense, the scientist waited for a second, peering intently at the brew within the jar. There were no bubbles now, no sign disturbed the scum-topped fluid. Then, trembling, Harley Gale's hand stretched out towards the metal wand. But before he touched it Gale stopped. Instead he reached overhead to grasp a thin chromium cylinder which hung from a geared swivel like a dentist's drill. He swung the tube down until it hung submerged in the center of the jar. His hand twisted a rheostat and the chromium bar began to turn red.

"Heat! That's what we'll give it!" jerked Gale. "It will break down the mixture, increase its receptiveness to the current!"

Then he moved the metal testing stick from the table, started it toward the beaker. Wade Henry's gruff shout topped the cry Harley Gale uttered as the wand literally jumped from his fingers, thudded like an arrow into the jar beside the chromium heater.

"Cut the switch!" cracked Gale, his eyes burning crazily at what they'd witnessed. Then he gasped huskily: "We've found it, Wade—*molten energy!*"

For a split second the laboratory was quiet as a tomb. Then Gale broke the connection which lit the chromium heater inside the jar. The scientist and his assistant gazed in awe at the beaker into which the tiny metal wand had been magnetized. Slowly the full meaning of the accomplishment drove home to them. Gale lifted the bar from jar with forceps, deposited it on the

table beside him. On it was a thin dull deposit. Scraping it cautiously his face lighted with understanding.

"It's lead!" he exclaimed after a moment. "We've electroplated the wand as well as magnetized it!"

"How?" Wade Henry grunted.

"I don't know," answered the professor frankly. "But get me more lead oxide—the red crystals in the test tube on the rack. Hurry! We'll experiment again."

Wade Henry crossed the room on the double. He jerked a test tube from the rack, bounded back to the scientist's side. Gale grabbed the container and poured a few drops into the jar. Then he pulled back with an oath.

"This tube!" he screamed gaping at the thin glass in his hand. "This isn't red lead. This is the 'blood pigment!'"

WADE HENRY stared, first at the test tube and then into the jar. In his haste, he'd taken the wrong vial from the rack above the sink. The pigment had already spread film-like across the surface of the acid. Streams of red were dropping to the bottom.

Realizing what he had done, Wade Henry moved roughly back against the table. Flustered, his hand pushed accidentally against the switch that controlled the current for the coil inside the jar.

A blinding white flash issued from the jar. It was like a photographer had snapped a picture. Harley Gale leaped clear of the table, a cry of alarm shrilled his lips. Then, as suddenly as it had appeared the flame died. Only a spluttering brew of acid hissed from inside.

"Look! The heating tube!" cried the scientist, pointing. "It's on fire."

Indeed, it seemed as though the chromium cylinder and the metal arms that held it were turning molten red!

Eyes wide, Harley Gale and his assistant stood riveted as the apparatus appeared to draw flame from the acid mass within the jar.

Wade Henry jumped forward. An insulated holder was in his hand striking towards the chromium heater when he stopped.

"Boss—!" he howled, terrified. "That ain't flame . . . and it ain't hot! It's *paint!*"

Harley Gale's eyebrows arched like a drawbridge. The ex-fighter was right. Now he, too, saw that the red glow which covered the cylinder was not fire. Then the hairs on Professor Gale's head raced each other for the upright position.

The blood-red coat of paint was traveling upward toward the highest point in the crane-like apparatus that held the tube. It was as if the machine was a blotter, sucking the color from the jar. The process was faster than imaginable. Like a sweep of the hand the color raced up, across and down the metal arms and base of the machine. Reaching the rubberized table, it stopped abruptly. Then the scientist found his tongue.

"My God, Wade! We've reversed magnetism! We've discovered material expulsion—expulsion of '*blood pigment!*'"

CHAPTER III

The Blood Bath of the Empire State!

HARLEY GALE switched off the lights in the white domed laboratory, pushed wide the large windows and shoved his head out into the fresh morning air. The promise of a sun cast a weak, grey light over the green lawns of the Long Island estate. For several seconds he breathed deeply, taking huge lung-fulls of clean air into his work-racked body. Refreshed, he

turned and moved again to the table in the center of the room.

Wade Henry was half-standing there. His head was propped between his arms which rested on the table, and his eyes were closed. A thin smile cut the scientist's pale lips. Gale was tired, too; more tired than he dared be *now*. His gaze carried around the laboratory covering the objects which testified to his work that night. And strange proofs they were.

The heating tube machine with its crimson coat was still on the table. But the machine was no longer in contrast to the rubber top of the table—the table, too, was red! A chair in the corner was now crimson mantled; they'd experimented on it also. Indeed, as Harley Gale stared he reflected it was as if a painter had been turned loose within the laboratory. Only the walls and ceiling and other pieces of equipment had been left alone.

Why or how it worked Harley Gale did not know. But for the moment it didn't matter. A strange elation at the discovery itself had seized him. Like Antoine Becquerel must have felt when he found—not knowing just how or what—the invisible radiation of Uranium.*

They'd injected magnetic energy in the acid. Then some strange chemical reaction had occurred when blood pigment was accidentally added to the mixture. The paint was driven onto any material to which the fluid was connected. Perhaps the weirdest part of the phenomenon was that the contents of the jar itself had not diminished. The blood pigment, highly concentrated as it was, drew moisture from the air as its "vehicle." Drew it with uncanny un-

derstanding of proportion, took no more nor no less than was necessary to coat the article with a lacquer red finish.

The expulsion process stopped instantly the current was removed from the coil around the jar. But the paint dried fast and remained hard on the material, penetrating only one-eighth of an inch below the surface. Below that depth the chemical was not able to draw the requisite oxygen and hydrogen.

"Wade," the scientist called softly to his assistant.

The ex-pugilist's eyes blinked open and he mumbled as he jerked upright. "Yeah, boss. Excuse me. I must have been dozing."

Gale smiled. "Quite excusable, Wade. Come—we'll turn in for a few hours. Then breakfast and back to work!"

OVER a second cup of coffee Harley Gale's mind cleared. Time seemed to make allowance for the scientist's lack of sleep. His vital work called for strength, and now, three hours later, he had it. Gale and his assistant returned to the laboratory. They put on new white aprons; it made them feel cooler, less tired. Then Wade Henry laid out a row of various materials on the table. Notebook before him, Henry recorded the results of the tests which Gale began. In turn, the scientist dipped metals that ranged from aluminum to zinc, woods from ash to willow, in addition to non-ferrous metals, glass, marble, granite, slate and brick into the hissing red acid.

And each although varying slightly in speed of reception, was quickly covered by the blood pigment. Glass alone was not affected by the expulsive chemical action. The tests completed, Harley Gale sat back and stared at this creation of his. It was like King Midas

* It was Becquerel's discovery which laid the foundation for Pierre and Mme. Curie's isolation of polonium and radium, and to Mme. Curie's application of radium in the treatment of cancer.—Ed.

and the "golden touch," reflected Gale soberly. Only the scientist gave a blood-red covering to whatever he touched. Yet this discovery meant as much as gold. Released to the commercial world it would make old methods of painting as obsolete as the horse and buggy for transportation. With a perfected expulsion unit there were no limits to what a single man could do in a day. And with blood pigment as the paint concentrate, an entire city could be painted in but a few days.

"I'd like to mix other colors with it," Gale told Henry when the tests were finished. "But right now, until we've had a chance for further demonstrations, I'm afraid to disturb the mixture. We'll have to be content with this hideous red."

Henry nodded. "It ain't very pretty to look at," he agreed. "Kind of looks like someone went screwy with an axe around here."

The scientist was busy detaching the wires from the batteries. "Help me get these disconnected, Wade," he said. "We're going to take the apparatus outside."

"Outside?" echoed the assistant. "Where . . . why?"

"Down to the stables. We shall make a last practical test of blood pigment spread by molten energy there."

"And then what?"

Harley Gale's eyes flamed with excitement as he answered: "Then, I shall call Mr. Le Pont du Secours again. With this new proof, he's bound to believe in blood pigment!"

Wade Henry scowled, grunted: "Mebbel!"

On a rubber-wheeled dolly they ran the batteries and the jar of crimson fluid out of the laboratory. Carefully they followed the graveled path to a large, white stable several hundred yards from the house. At the edge of

the wood barn they stopped, unloaded the apparatus. In a few seconds it was ready to work. Gale pried a corner board out so that its end was dipped in the jar. Then Wade Henry made the electrical connection. Fascinated, they watched the fluid obey the expulsive impetus of the current. The reddish coat moved along and up the sides of the stable like shades from a fast-sinking sun. It was terrifying to watch the noiseless spread of color over the white stable.

The crimson flush reached the roof, crept like a human onto the shingles and raced toward the peak. A curtain of red rising from the other side met it at the top. The fluid in the jar hissed loudly, a sign that it was meeting resistance.

"It is all so simple," cried Gale. "It goes as far as it can on the substance to which it is originally attached. Then it stops!"

"Simple?" repeated Wade Henry clawing at his head. "Yeah—like Einstein's relativity!"

FROM the laboratory, Harley Gale called New York. After an almost endless barrage of protective secretaries he heard the low, throaty voice of Le Pont.

"Mr. Le Pont," began Gale enthusiastically, "I've made another discovery. A discovery which can be used in connection with blood pigment. You must come at once to my laboratory. It's unbelievable!"

Le Pont's answer was clipped and hard. "Listen, Gale! In the first place, I'm not interested! Not now or ever! Get that straight. I've made my reasons plain. In the second place, I'm a busy man. If you wish to see me, despite what I've told you, make an appointment through my secretary!"

Harley Gale heard the click of the

receiver. Slowly he replaced his own instrument, swung to face Wade Henry. Sharp disappointment rode the scientist's features, mirrored for a second in his assistant. Henry cursed.

"I knew it, boss. That bird is worse than poison. Why give him a chance to insult you?"

"But you don't understand, Wade," faltered Gale. Le Pont has got to be convinced—I've got to prove it to him!"

Then like a rush of wind a thought whipped the scientist. He gripped Henry's arm tightly as his eyes traced a mental pattern in the air. When he spoke his voice was like a growl.

"Get the car, Wade! Hurry! Then load this equipment in it," he ordered. "If it's proof Le Pont wants he's going to get it!"

Wade Henry didn't ask any questions. The tone of Gale's voice prevented that. In five minutes he had the long, black limousine waiting in the driveway. Quickly he moved the batteries and the jar of fluid into the rear of the car. When Harley Gale appeared he had changed to a business suit. There was nothing to indicate he was a scientist who'd stumbled upon a force stranger than energy itself. Gale sprang through the door Henry held open.

"To New York!" he cried. "To 34th and Fifth Avenue!"

In the chauffeur's seat the scientist's assistant swung a startled head.

"But, boss," he objected. "It'll take us an hour to hit the city. Then we'll be bucking out-town traffic. Besides, there's a rainstorm brewing. We can't possibly get there before five o'clock. Le Pont will be gone."

Harley Gale's only answer was a commanding wave of his hand. Wade Henry fed gas to the accelerator. Thirty minutes later a wind-sucked cloud of dust marked the near flight of the auto along Highway 25. A half-hour

later the tall pinnacles of greater New York stretched upward on the other side of the river. They crossed the Queensboro Bridge, swerved south on Fifth Avenue. Hunkered over the steering wheel Wade Henry wormed the black limousine skillfully through the traffic. Then suddenly they were at the curb in front of the entrance to the tallest structure in the world, the Empire State Building. One hundred and two stories of steel towered into the blackening sky.

As he sprang from the car, Harley Gale cast one quick glance upward. Somewhere up there were the offices of Le Pont du Secours. One solid floor devoted to the business of the great paint syndicate. Gale took the express elevator to the 58th floor, announced himself and his business to the girl whose desk fronted the doors.

"I'm sorry. Mr. Le Pont has been gone nearly an hour," she said. "Would you care to make an appointment for next week?"

The scientist shook his head, dug a finger into the elevator signal button. Wade Henry was waiting for him outside, and the assistant saw from the look on Gale's face that their trip had been in vain. The scientist stood for a moment glancing back with tense thoughtfulness at the slab sides of the building; sides one thousand two hundred and forty-eight feet high. Then bitterly he plunged inside the auto.

"Where to, boss?" Wade asked him. "Going to put on the feed bag?"

Harley Gale nodded.

"Yes. We'll eat first—then we'll drive to Le Pont's home at Mamaronck.

THEY wolfed their food at a small restaurant only two blocks from the building. Gale's eyes were those of a hunter, feverish, intent, determined.

The storm struck as they were finishing their meal. A crash of thunder and a flash of lightning announced it. Hurriedly Gale paid the check and they went out onto the rain-slickened sidewalk.

In the car Wade Henry gave vent to his thoughts.

"It's a long haul out to Mamaroneck tonight, boss. Why not wait until tomorrow?" he asked.

The scientist answered bluntly: "No. I must see him tonight. I've got to prove to him the importance of our discovery."

"But how do you know he'll see you?" protested Henry. "Supposin' he won't let you demonstrate? Two to one he tells you again to 'paint the Empire State Building.'"

For a long moment while the rain beat a tattoo on the top of the limousine Harley Gale was silent. His eyes carried to the floor, scanned the heap of batteries, the jar of blood pigment and other apparatus. Then he straightened.

"Let's go, Wade," he barked.

"To Mamaroneck?"

"No!" hissed the scientist. "To the Empire State Building!"

Only when they were again beside the tall skyscraper and he saw the scientist peering cautiously out of the car windows did Wade Henry guess with a shock what Harley Gale planned to do. And even then it was too fantastic, too impossible for him to accept. As his mouth opened in a roar of protest Gale cut him short.

"No questions!" the scientist rapped, pushing outside into the pouring rain. "Unload those batteries. Move them into that doorway," he added, pointing to a tradesmen's entrance several hundred feet from the main lobby.

Ordinarily the sidewalk would have been jammed with people, but the cold rain had driven them to shelter and

kept them there. The blackness of the night and the rain itself hid Wade Henry as he moved the batteries from the car, placed them behind several boxes of trash piled in the doorway. Harley Gale brought the jar of acid from the car. With wet, fumbling fingers the scientist placed the magnetizing coil around the jar, connected the wires leading to the batteries.

"God, boss, you *can't* do this! It's insane!" whispered Wade Henry hoarsely. "We'll go up the river for life if they catch us!"

Gale didn't answer. A flash of lightning showed him a cornice jutting from the side of the building. He raised the jar on top of a trash box so that the edge of the stone touched the fluid. Then he jammed the switch shut.

ABOVE the slap of the wind-driven rain on the street, the rumble of thunder and the crack of lightning in the storm-filled sky came the viper-like hiss of the acid as current surged from the coil. Harley Gale's eyes froze on the side of the building. Then his thin lips parted in a cold, anxious smile. Wade Henry gulped in terror, eyes popping in his head like saucers.

Harley Gale saw it too, and he sucked in air. Along the cornice both East and West a red line raced at incredible speed. It was like the mercury in a thermometer rising under the heat of a match. Then from the cornice itself the blood-red coat seeped upward! As Gale gasped, the pigment passed the window casings of the second floor.

"It's moving faster than I ever dreamed!" shouted the scientist. "The rain on the side of the building has speeded the process!"

"The police!"

Wade Henry spat out the words. Harley Gale jerked his head down the sidewalk. Plodding toward them, head

down, black oilskin slicker dripping water, was an officer. Breathlessly they waited as he drew abreast of the doorway. Then he looked up and saw the scientist and his assistant huddled inside. He pushed in beside them, nodded casually.

"Plenty wet," he offered, shaking his slicker. Then he noted Gale wore no overcoat and his suit was drenched. "Are you wanting for a cab, sir?"

The scientist managed to shake his head. He felt Wade Henry's fingers gripping his arm. If only the policeman didn't notice the building, prayed Gale.

"I don't believe it'll clae off to-night," the officer said stepping outside once more. Then his eyes jerked upwards toward the sky. "It's blacker than—! *Jumping Jehoshaphat!*"

The policeman's hat dropped from his sky-raised head. The rain beat down onto his shock-twisted face. Pivoting, he swooped his hat from the sidewalk, wiped his other hand rapidly across his eyes. Then he stared at Harley Gale.

"Gor! It's the last time I'll be takin' a glass o' beer when I'm walkin' my beat!" he stammered.

Fear in his face, the policeman took another quick glance above him. Then he howled: "I still see it! The Empire State's gone bloody! It's time I was turning in my badge!"

CHAPTER IV

Destruction Takes a Hand!

FIFTEEN minutes later the world gasped! It was a collective, actual gasp, limited for the first few minutes to those who heard the two major radio networks break sponsored programs to tell of the blood paint which had fallen on the Empire State Building. Every teletype in New York batted out the

terse, fantastic story, jerked news editors from 'Frisco to Moscow bolt upright in their swivel chairs. Minutes later raucous newsboys screamed unintelligible headlines from stop-press editions launched onto the streets by wide-eyed editors for wide-eyed readers. Californians dropped dinner; Australians forgot lunch; Londoners deserted "bottle" clubs; Japanese—who weren't fighting—left breakfast.

More sensational than "wrong-way" Corrigan's flight, less spectacular than Edward VIII's abdication, vastly more interesting than the unvaried prattlings of rubber-stamp politicians, "The Blood Scourge of the Empire State Building" got at least four columns in every news-sheet including the Boston Transcript! America went to sleep on it; woke like children headed for a picnic to read a fuller, more detailed account of the startling chemical phenomenon.

The press was quick to bring the best scientific minds to the front for an expression of their opinion. And the great and near-great offered their explanation of the phenomenon. In twenty-four hours the finest brains in science were at swords points over their differences in opinions. The consensus was that lightning and rain had brought out hidden pigments within the material used in the building. The thirty odd persons who claimed to have witnessed the actual transformation the night before told similar stories. It seemed, so they said, that the building had absorbed its color from the ground like a blotter held in a pool of water.

From the four corners of the earth scientists were coming to study the structure. Police had surrounded the building keeping souvenir hunters from chipping pieces of the blood-red sides. Thousands flocked to view the ugly act of "Nature" and nearly each one had

his opinion of how it happened. But only three men really knew!

Two of these men sat in their laboratory at Green Bay, Long Island. Harley Gale pushed aside the stack of newspapers and smiled at Wade Henry, who stared at him doubtfully.

"What fools they are!" he said. "Dr. Gatrix says it definitely proves his electrolysis theory. Professor Barnes is crowing that it sustains his claim about spectrum destruction. Maddikan is swearing it's merely a t o m i c discoloration."

"But they're making laboratory tests now, boss," Henry announced. "Won't they be able to analyze the elements in the paint?"

Gale frowned. "Perhaps. But it won't tell them much. Not guessing the real secret—magnetic expulsion and blood pigment—no one could ever discover the method and the combination of chemicals. If they—"

The telephone bell cut short his speech. The scientist answered it. Then he heard the voice of the third man who really knew what had happened.

"Hello, Gale. This is Le Pont!" The

man's voice sounded as if he had a bad cold. "What madness ever prompted you to do it? God, man, do you realize what the consequences will be if you're caught?"

Harley Gale answered: "Consequences? Of course, I realize them.

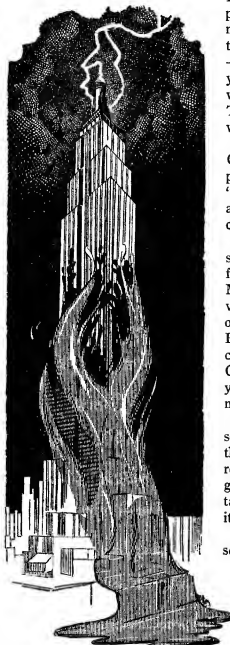
Backed with this publicity, blood pigment will be accepted throughout the world—with or without your help! You wouldn't listen to me. This was the only way."

"I'll expose you, Gale!" thundered the paint manufacturer. "You've perpetrated a ghastly thing on a city—on a nation!"

"My next demonstration will transform the ugly red, Mr. Le Pont, into a very acceptable color. The Empire State Building will have no complaint," replied Gale evenly. "Would you like to work with me now, Le Pont?"

There were several seconds of silence as the man pondered a reply. "All right," he growled finally, "I'll talk with you about it. This afternoon?"

"Perfect!" the scientist said. "I'll



Like a crimson tide the deadly paint of Harley Gale leaped up the sides of the Empire State Building

be looking for you."

Wade Henry was grinning when Gale faced him. He said exuberantly: "More than one way to skin a cat. Eh, boss?"

HARLEY GALE merely nodded.

He had stepped to the window of the laboratory and was looking out on the Sound. Approaching the yacht harbor was a large schooner, sails set. The scientist's mind was filled with a hundred satisfying thoughts. That boat, he mused to himself, could be painted this same way. The masts towering into the sky would no longer require the tedious effort of two men and a bosun's chair. A jar of blood pigment and an expulsion unit on the deck would give it a lasting coat of varnish in less than a minute! Gale's eye carried reflectively over the cluster of houses within his view. Each one was a potential target for the simple, effective process. Then in his mind he traveled the length and breadth of the world, fitting the discovery to countless things on which blood pigment would work.

He visualized the saving it meant: Man-power, time, money! These things were to him, as to most scientists, synonymous and desirable. If invention disturbed the economic and social status quo, if it temporarily unbalanced the production-consumption ratio of a world, that was not the problem of science. Let educators, sociologists and economists make readjustment. Progress must never stop! A scientist's creed embodied achievement, his viewpoint must always unswervingly be ahead!

Stimulated by his review of the practicality of his discovery Harley Gale went back to work. With his assistant he began putting in shape the formulae by which blood pigment was made, with

which the magnetic fluid expelled it. When they had finished there still remained a mystery. They still didn't know exactly *why* it worked. Fluid magnetism was understood; blood pigment could be explained. But the sudden reversal of magnetism remained technically indescribable.

LE PONT DU SECOURS arrived while they were still at work. His manner had changed. He realized for the first time the magnitude of Gale's discovery. His face revealed his shock in viewing the scientist's startling demonstration.

"I've said nothing to anyone about this, of course," Le Pont began, solemnly taking the chair Gale offered him. "And until we've worked out a plan—an intelligent course of action, I don't think the facts should be mentioned."

"It has gone no farther than the three of us," said Gale.

Le Pont lit a cigar, puffed vigorously before he spoke. "I want you to understand my attitude. I'm a business man—not a chemist. When you first approached me with blood pigment, I felt I'd have been a traitor to the industry to sponsor what you discovered. You have convinced me otherwise. I realize that this invention cannot wait. It must, I see now, be given to the world."

Harley Gale's face had softened. Being a scientist he was able to understand Le Pont's former reservations. And he respected the paint manufacturer's courage to admit he was wrong.

"Being a business man, Le Pont," admitted the scientist, "you can tell me where we go from here. From this point the discovery is in your hands."

"Thanks," Le Pont said warmly. "First, then, your formulae must be patented. Patented, naturally, without

revelation of the exact proportions of the ingredients nor your method of combining them. How *did* you manage to diffuse your chemical—to *paint* the damn building?"

Quickly Harley Gale explained what they knew. When he had finished the fantastic story Le Pont's face was broken with lines of amazement.

"It's incredible!" he muttered. Then thrusting his hand deep in side pockets he added: "But we know it's true. So, after patenting your discovery, we can further public interest by altering—as you have suggested you can—the color which now makes the Empire State Building look like a blood-covered spear. Will you coat directly over the red?"

"Certainly. The original fluid was used up, of course, but we can prepare another using a different colored pigment to offset the hemoglobin."

"And the finish will be as permanent—as efficient as the red?" asked Le Pont.

Harley Gale moved to the table, indicated the heating machine. "Just as permanent and satisfactory as this!"

The paint manufacturer stepped to the table, gazed at the machine which looked like a dentist's drill. The red lacquer coat covering it was the same that blanketed the 102 stories of the Empire State Building. Le Pont studied it carefully. He noted the rubber table top, the chair in the corner.

"Were these painted?" he asked, "or were they covered by the expulsion apparatus?"

The scientist hesitated for a moment, his eyes filled with a strange light. "By the machine—of course! Why do you ask?"

LE PONT pulled his face thoughtfully. Then he stared hard at the machine on the table. "And has it

been tested like the wood slats you showed me the last time I was here?"

"I haven't had time to give it the same tests, Le Pont," the scientist answered abruptly. He looked at his watch. "It was coated less than twenty-four hours ago. But, obviously, tests will reveal the same qualities in the paint."

Le Pont did not answer. Instead his eyes were riveted on the table. Then slowly his glance carried to the heating machine. The intensity of his stare caused Gale and Wade Henry to look too. But there was nothing to see—apparently. Then Le Pont's voice sounded hollow and choked.

"Dr. Gale," he added slowly, "perhaps I'm mistaken. May God grant that I am! But unless my eyes are going bad, something is wrong!"

Harley Gale sprang near the paint manufacturer. He gripped the man's arm. "What is it Le Pont . . . what do you see?" he cried anxiously.

Le Pont raised his hand slightly, a trembling finger pointed to the top of the table directly below the machine. Gale's eyes dropped from Le Pont's sweaty forehead, followed the unsteady finger.

"Don't you see it?" Le Pont jerked hoarsely, as if indicating a coiled rattlesnake. "That dust! The red, flaky dust that's dropping on the table!"

Then Harley Gale saw it. And he felt the skin on his face tighten. His beard raised like a porcupine's quills despite the fact that he was clean shaven. A cold chill hit his spine, set the hairs on his head tingling upright. Unwilling to accept what he saw, Harley Gale's hand inched out toward the apparatus. His fingers brushed timidly against the blood-red chromium heating tube.

Like a castle built of wet sand and dried under a hot sun the tube crum-

bled under his touch! Its fragments dropped pulverized onto the table!

Wade Henry's shout of panic was drowned by the one word Harley Gale screamed.

"Disintegration!"

Le Pont ground out: "The blood pigment has destroyed the metal!"

WHITE as his apron, the scientist gripped the edge of the table. Then before his terror-stricken eyes the long metal arms of the apparatus itself broke and fell like granulated sugar to the table. From a complicated mass of machinery the heating machine had become in less than a minute a pile of pulverized red dust.

Silence like a tomb held the laboratory and its occupants for several seconds. The impact of the spectacle had struck home, but full realization of its implications were longer in penetrating the dazed minds of the three men who had witnessed it.

"It can't be true!" stammered Harley Gale finally, brushing the beads of perspiration from his forehead with a clammy, shaking hand. But even as he spoke he knew it *was* true!

Something had gone wrong. Something as strange as the power which had reversed the magnetic process of the acid fluid had reversed the action of the blood pigment. Used alone and applied by a brush, it was a paint. Spread by contra-magnetic force, blood pigment was a fibre-eating, molecule-destroying chemical!

Bewildered, the three men stared at each other. Then Gale's hand pressed into the rubber table top. The surface gave under the pressure. Aghast, the scientist moved his finger in a circle; it pushed through the once-rubber top as if it had been sand.

Then, suddenly, a calmness came to Harley Gale. He straightened with a

snap from the table, his jaw set hard. His black eyes were narrowed, seemed alive with the fire of determination. He peered at the watch on his wrist.

"Twenty hours and thirty five minutes ago we applied blood pigment to this—this dust that was then a machine!" he clipped coldly. "A few minutes later we tested our discovery on the top of the table. And later, on that chair—"

An indescribable, swishing sound from the corner of the room broke his speech. The three men wheeled, peered at the crumpled mound of dust on the floor. Harley Gale went on unflinchingly.

"*That* was the chair!" he said.

"And an hour later we covered the stables!" added Wade Henry frantically.

Mr. Le Pont's jaw had dropped wide. He stood now with blood shot eyes staring at Gale.

"And two hours later," he croaked, trembling, "you put blood pigment on the Empire State Building! Quick, Gale! Where's a telephone?"

CHAPTER V

Race Against Time!

AS Harley Gale's fingers thumbed hastily through the notebook of formulae he heard only snatches of Le Pont's telephone conversation. The paint mogul was shouting into the mouthpiece.

"Don't argue with me! Give me the police commissioner! . . . Hello, Randall? This is Le Pont. Yeah! Listen, don't ask questions, just believe me. Unless a miracle can be performed the Empire State Building will collapse in three hours! Damn you I'm not drunk! By all that's holy, believe me! Get out the police force, the fire department, the Red Cross—get out every emergency

unit available! Evacuate every building with a block of the Empire State and stop traffic leading past it! You've got to do it, Randall! The lives of thousands of people depend on it! If you want me, I'm at Dr. Harley Gale's, Green Bay, Long Island!"

Le Pont called another number. In a moment he had his party. "Al, this is Le Pont!" he spat. And then he repeated, in part, the story he'd told the police commissioner. "And you've got to get every tenant out of your building! It makes no difference what they say! If you don't, you'll witness the most appalling tragedy that's struck this nation! Hurry, man, hurry!"

THE early afternoon sun shot a stream of light obliquely into the laboratory. The bright shaft cut a path across the laboratory floor, fell like a spotlight upon the mad scene. At the table Gale was scribbling from his notes. Wade Henry stood at his side. Tense, Mr. Le Pont had moved in. The scientist buried his head in his hands, massaged his burning temples. Desperately he tried to recall some formulae, some basic truth of chemistry or physics by which he could counteract the vicious, fibre-destroying blood pigment. But like Archimedes who lacked a base for his hypothetical fulcrum with which to move the world, Harley Gale had no definite place to start.

The paint concentrate alone was harmless, they'd proven that. It had been the mixing of it with the magnetic fluid which had created a chemical monster. The equation produced by this mixture revealed no destructive base nor ingredient. Somewhere in the process an unknown principle had gone into action. It was no stranger, reflected the scientist bitterly, than the reversal of magnetism which had occurred.

Breaking from his thoughts Gale

tried again to calmly examine his facts. There seemed to be one possible solution. That was adding another coat containing a counter-agent to the building. But again he faced the ghastly fact that he didn't know *what* he had to counteract. If he had time he could make tests. He could try a hundred different catalyzers which might work. But he didn't have time!

"Can't you—can't you think of anything, Gale?" asked white-faced Le Pont faintly. "Isn't there something you can do? In only two hours and ten minutes—"

"I know!" cracked Gale. "Don't you think I realize far better than you what's going to happen?" Then his tight, drawn face lifted, his eyes drilled the ceiling. He spoke low, fervently. "Oh, God, if you ever gave man strength if you ever pointed the way to understanding—do it now!"

The ring of the telephone stung the silence of the room. Le Pont grabbed the instrument.

"This is the Chief of Police speaking . . . New York. The Commissioner gave me your story. Heaven help you if you're crazy, drunk or lying. We're shunting traffic from the building, evacuating tenants from the area. What in the hell is it all about? Is there any chance to save the Empire State?"

Le Pont groaned: "We don't know. We—that is, Dr. Gale—is trying to find the—the solution. If we do . . .! You'd better send a motor cycle escort out here anyway!"

As the paint mogul swung from the telephone Harley Gale snapped a command to his assistant.

"Get me the ingredients for our basic acid, Wade! We're going to make another batch of molten energy!"

"WHAT'S your plan?" questioned Le Pont as Wade Henry dashed

for chemicals.

The scientist had already half filled a jar with water. He poured in the elements which Henry brought to him. Trusting his eye rather than take time to carefully measure the chemicals, he worked with inspired speed. Without stopping he answered Le Pont:

"It's a hunch," he said through his teeth. Then wrapping the coil around the jar he added, "If before mixing blood pigment this acid was and is magnetic perhaps it will *attract* the pigment!"

Le Pont was dazed. "But—but once pigment is added, the process is reversed and the acid doesn't attract at all. It will simply push the pigment out again!"

Gale nodded, a deep furrow cutting his forehead. "Perhaps. But I'm not sure. We've got to take that chance!"

His hand slapped shut the knife switch leading to the batteries. His other hand grasped the metal bar he used for testing. As he raised it from the table, it leaped again from his grasp, thudded into the jar. Gale took a quick breath.

"All right! At least we've got magnetic energy back again!" he said. Then he called to Henry: "Get the apparatus out to the stable. We'll test in on the barn."

Wade Henry whisked the batteries from the table two at a time. To his natural strength was added the chemical stimulus of his body working under strain. Le Pont and Gale helped him; less than a minute later they dragged the cart from the laboratory, down the gravel path. As they approached the blood-colored stable the scream of sirens announced the arrival of two State Troopers on their motorcycles. They burned rubber in the driveway adjoining the stable, swung from their machines to watch the three men racing

toward the barn with the machine-cluttered dolly.

Even as Wade Henry's powerful arms jerked the batteries from the dolly Harley Gale had shot an anxious glance at the sides of the structure. Then with a cry he jerked the dolly back from the building.

"Quick, Wade, get out of there! The stable's falling!"

His words were topped by a sound like an avalanche. In one chaotic disabandonment of shape the barn crumpled from the foundation up. But before the roof hit the ground it, too, was only pulverized red dust. The sight was too much for the unprepared State Troopers. A string of Irish oaths cut the air as they stared at the heap which was once a barn.

Gale was the first to speak. "Get the car, Wade! Quick, Le Pont, help me get this dolly over to the driveway. Pick up those batteries on the ground!"

Wade Henry sprang for the garage. Le Pont and Gale jerked the cart down the gravel path loaded with the acid jar and the ten wet cells. The motorcycle officers helped them tug it onto the cement driveway. As the black limousine screamed up beside them, Gale jerked open the rear door. They transferred the equipment. It had taken less than fifteen minutes. As the scientist and Le Pont sprang into the car, Gale saw by his watch there remained only one hour and forty-five minutes before the Empire State Building would become what the stable now was!

"If you've ever cleared a road, men, do it now!" he shouted to the State Troopers through the window.

AND officers Riley and Donahue did clear it! Without the siren-screaming escort the black limousine would have been nabbed by police five minutes out of Green Bay. Not for speed-

ing, but for flying too low! The twelve cylinder car seemed leave to the ground on more than one occasion. Each curve was cause for an unearthly screech of rubber as Wade Henry hung to the tail of the motorcycles which led the way. The speedometer needle passed seventy, wiggled slightly at seventy-five, swung little from the 80 m.p.h. mark except where villages and other habitation absolutely demanded it.

Harley Gale said little, but his mind was churned with a hundred vital thoughts. Mr. Le Pont said nothing, but he lost weight with every mile of journey. Finally the scientist checked his watch. Then he shouted to Le Pont above the shriek of the sirens and the howl of burning rubber.

"One hour! One hour left!"

Le Pont managed a half-hearted nod. He didn't seem to care now about anything excepting his arrival in New York in one piece. Looking down at the jar in the bottom of the car Harley Gale was thankful he'd taken the precaution of capping it. Without a top the acid would have spilled every minute. As it was Gale had the container propped between his feet to keep it from tipping. Trees, houses, autos, people and the road itself flashed by in a blur. It was as if they were riding a bullet. Then ahead of the ribbon of road Gale caught a glimpse of a sign and its lettering that read:

"DANGER—BAD CURVE!"

In the second that followed the scientist saw the motorcycle officers ahead round the turn, heeled almost parallel to the ground. He saw Wade Henry twist madly at the steering wheel and heard the scream of the tires. And in the last half-second the scientist dove to the floor, arms circling the jar of acid. Then there was the sickening roll to the left, the crash of window glass and metal. Le Pont's huge form catapulted

overhead—once, twice, three times!

HARLEY GALE unwound himself from the foot rest, pushed Le Pont off his stomach. Only when the door opened and he saw the anxious face of a State Trooper, Gale knew the car was right-side up. Dazed, he crawled outside into a ploughed field. And in his arms he still held the jar of precious acid. Le Pont followed him, limping badly. Wade Henry had been thrown clear of the car; his arm hung at an impossible angle.

"You're hurt, Wade?" asked the scientist unmindful of the blood that trickled down his own face.

His assistant managed a smile. "Busted my wing. Ain't nothing new; it's been that way four times before. Come on, boss, time's wastin'!"

In a few minutes he improvised a splint. Fortunately it wasn't a compound fracture. Then he stared at the car. The fenders were badly smashed and the top was dented. They'd rolled over three times, leaving the highway for a hundred yards. Those somersaults had raised hell in the back seat. Gale saw at a glance half the batteries were shattered. Wade Henry was in the driver's seat. The engine turned over, raced under his touch.

"The damn thing still runs!" jerked one of the Troopers in amazement. "Do you suppose it'll—"

Wade Henry answered him with action with his good arm. He meshed the gears, squashed the accelerator. The limousine ploughed earth for a moment, then swung crazily in a circle out of the field. Gale, Le Pont and the officers followed at a run.

"Come on, Le Pont!" shouted the scientist jumping inside. He took the jar of acid with him. "There's thirty minutes left!"

The police escort trod sirens as the

limousine leaped ahead. After the first few hundred yards Wade Henry knew the car hadn't been damaged internally. Seconds later the speedometer again read eighty-miles an hour.

"We've got to pick up more batteries!" Harley Gale cried to Henry. "Try the first service station that looks promising!"

Henry jerked a nod, his eyes were on the road. Ahead was Long Island City and the Queensboro Bridge. As they neared the approach to the bridge a gas station loomed on the right. The car ground dust between the pumps. The transaction was so quick the station operator hardly knew what happened. He sold four batteries to three "mad men" in a little less than thirty seconds. The limousine and its occupants left him standing dumbfounded, a generous roll of bills jammed in his hand. At the next gas station the process was repeated.

And then they were rolling wildly across the East River. The chilling whine of the sirens stopped traffic on the bridge, stopped it as they raced onto Manhattan, wheeled recklessly South toward the towering skyscrapers. Twenty-five blocks ahead, above all else, loomed the ugly red sides of the Empire State Building.

"Fifteen minutes!" rapped Gale desperately above the noise. "Give it everything you've got, Wade!"

Long before they hit 36th Street Harley Gale saw traffic was being diverted there. Across Fifth Avenue an emergency blockade had been thrown. At the curb were two dozen police cars, fire engines and other emergency units. The limousine skidded fifty yards up to the blockade. The motorcycle escort had stopped there, too. A police lieutenant ran beside them.

"You can't go through here! Back up!"

"Back up, hell!" snorted Wade Henry. He crashed gears, blasted his horn and thumped his foot clear to the floor boards.

POLICEMEN scattered from in front of wood "saw-horse" blockades. Planks splintered like match sticks as the car knifed its way through. They had no sirens ahead now, but they didn't need them. There was no traffic. The two blocks remaining were covered before he could shift out of low.

Harley Gale was out of the car before it stopped rolling. He ran to the blood-red building, clutching the jar in his arms. From the car Wade Henry helped Le Pont lug the batteries. Then a motorcycle with a side-car skidded in beside them. It was the police lieutenant. He rushed forward to where Gale was arranging his equipment.

"Hey, you! You've got to get out of here!" he commanded. "This building's due to collapse any minute!"

Wade Henry snarled. "Listen, copper! We're the guys who—"

The scientist cut him off: "Don't argue, Wade, we haven't got time!"

Gale hadn't meant it that way, but Wade Henry's interpretation of the remark was quite satisfactory. The ham-like fist of his uninjured arm crossed to the policeman's jaw in a single motion. The police lieutenant dropped like a sack of flour.

"Sorry, buddy!" clipped Henry over his shoulder, springing to Gale's side.

It seemed years before they'd re-wired the new batteries, clamped the ends to the coil around the jar. Then for perhaps five seconds Gale's hand hesitated on the switch. And in that short period the scientist was conscious of many things.

First, the silence. Tomb-like and ominous it seemed to have settled over the entire city. From every window of

every building that commanded a view of the Empire State, clusters of heads watched the drama before them. Surrounding the "no man's land" a thousand men stood ready to move in. At different points a score of radio announcers sent impromptu pictures of the scene out to millions listening breathlessly throughout the world. Newsreel cameras were grinding; had been intermittently for the last three hours. Squadrons of airplanes were circling within the legal limits above the building.

To most of these spectators it meant merely something never to be witnessed again. To many, Harley Gale realized, his success or failure meant inestimably more than that. To some few, what might happen would influence their lives and their fortunes. But to one man — to Harley Gale himself — it meant everything!

He threw the switch!

THE acid which covered the tip of the stone cornice of the building bubbled furiously. Gale held it there despite his trembling hands. Craning his head, his eyes sought to penetrate the uppermost portion of the building. Though behind him were Wade Henry, Le Pont and the police lieutenant, and behind them ten million others, Harley Gale felt very much alone.

Then it happened!

At first a sigh as if the wind had whistled gently. Then a growing hum of voices which merged into a united

deafening roar like a clap of thunder.

Those persons highest from the ground and those far enough away had seen it first. But ten tons of weight lifted from Harley Gale's shoulders as he squinted skyward. From the very top a great curtain of grey seemed to be falling over the blood-red stain. But through tear-filled eyes the scientist saw the acid jar before him turning red! No grey curtain was falling on the Empire State Building; the blood-pigment was coming out!

Down, down, down, it came with a speed almost twice that of its rise the day before. And the voices of the spectators turned to a swelling chorus of yells, excited screams of joy. And as the red dropped lower and lower the cries found echoes in every street in Manhattan. Down, still down, the blood-pigment raced; louder, still louder, the voices bellowed.

And suddenly Harley Gale saw a streaking line of red on the cornice of the building. Like a rubber band released, this last strip of pigment returned to the acid jar.

"Gale! Gale!" the scientist heard Le Pont screaming in his ear. "You've — you've done it! You've done it!"

Then as he turned Harley Gale heard one last voice before everything was washed away in the ovation that awaited him.

Wade Henry was grinning.

"More than one way to skin a cat! Eh, boss?"

THE END

« « WATCH FOR IT! » »

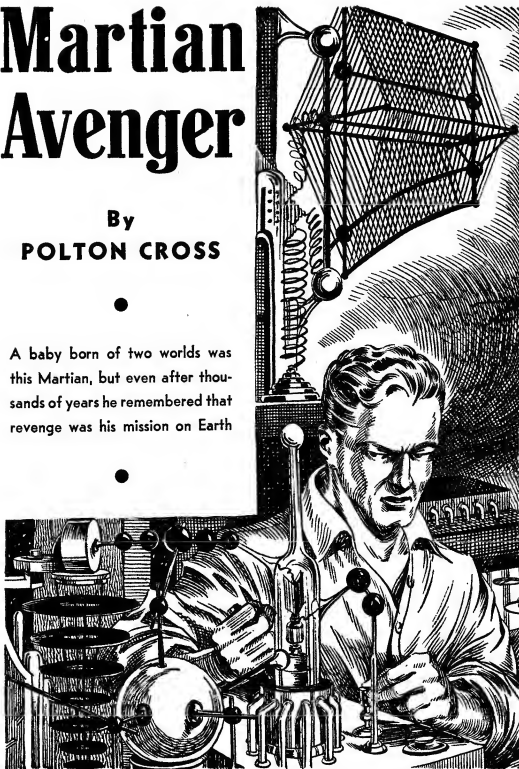
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Martian Avenger

By
POLTON CROSS

A baby born of two worlds was this Martian, but even after thousands of years he remembered that revenge was his mission on Earth



Headless of the girl, Halworthy prepared to hurl the deadly vibration forth

CHAPTER I

The Cell Cluster from Mars

"MR. HALWORTHY is in the laboratory, Miss Crawford. Working late, I guess."

Vera Crawford nodded her thanks as the old Institute janitor resumed his mop and pail. She strode on purposefully down the white enameled corridor, finally flung open the green door at the far end.

"Who the hell's opened that door?" demanded Halworthy's irate voice. "I don't want any cold air in here, and—Why hello, Vera!"

The scientist broke off in surprised greeting as he came round a bench piled up with bottles and paraphernalia. Young, good looking after a fashion, his blue eyes became rather sheepish as he found the girl accusingly regarding him.

"Are you aware, Lance Halworthy, that you had an appointment with me tonight for the television theater?" she asked bitterly. "It may interest you to know I've got feet as cold as icebergs from waiting down town for you!"

"I forgot all about it," he said solemnly. "Yes—seriously I did. I'm engaged on such an important experiment—"



"Please, Lance," Vera pleaded. "You can't do this terrible thing! You can't!"

"Experiment! When do I ever hear any other excuse?" The girl came forward and rubbed her chilled hands over the electric stove. Then as Lance said nothing further she turned a curious pair of brown eyes upon him. "Well, what is it?" she asked resignedly. "Might as well give me *some* reason for your neglect. And it had better be a good one else I'll think twice about marrying you when the time comes!"

The threat was wasted on Lance. He merely smiled, took her arm, and led the way to a square case of glass bound around on three of its sides with strangely fashioned machines. There were tubes that contained a rose colored fluid, thermostatic heating devices, thermometers, and then a wired apparatus containing a spotless, wafer-thin piece of metal which beat to and fro with metronomic rhythm. Somehow, it resembled a heart.

Vera only glanced at these details: they were merely laboratory technique. Most of her attention was concentrated on an object repulsively like a large blood red worm, its substance shot through with veins of darker hue. It lay inside the case curled up in a semi-circle, palpitating steadily.

Vera looked up sharply, vaguely horrified. "What are you trying to do? Cultivate a new species of snake?"

"Nothing like that," Lance laughed. "That thing came from Mars, and it's been entrusted to me by the Space Navigation Company. So you see I'm on an important job."

"But I thought explorers had proven Mars dead long ago?"

"That's so, but Valmerlik, who takes a delight in probing into places where ordinary space explorers have more sense than look, came across six preserved cell clusters buried near one of the Martian cases—hidden in an underground chamber which had unquestion-

ably been made by intelligent means. Five of the cell clusters aggregates were useless: the Martian air, though mighty thin, had somehow gotten through to them and rotted them. The sixth cluster was in perfect condition, and here it is. We were stuck to know what to do, so we finally took the only course and fertilized it artificially on earth here. This is the result: life has begun. The cells have formed and produced fusion. Thanks to all this artificial incubation those cells are growing into a living thing. . ."

"Then—then it's a Martian?" the girl whispered, fascinated.

"Not entirely. It's a hybrid, born of two worlds. Martian life cells fertilized by earth sperm. Naturally, we can only reproduce the chemical substances we know on our own planet. We've no means of knowing what a Martian sperm would be like. . . Call it a half breed."

TO Lance's surprise the girl gave a little shudder. The thing in the case had uncoiled very slightly. Dimly, she could already make out the vague details of head, shoulders, and arms.

"I think it is basically cellulose," Lance murmured pensively. "Pure cellulose, wherein it differs from our own type of life."

"It's horrible!" Vera's declaration was dimly emphatic. "It's time you scientists stopped playing around with things like this! What good is there in it, anyway?"

"Plenty! There will be certain strong hereditary tendencies in the full grown creature. From him we may be able to reconstruct the history of Mars, learn the red planet's secrets, learn why his cell clusters, along with five others, were removed from female Martians to be buried in a vault. There's no end to what we might discover. Notice his

metabolism—it's terrific.'

"He seems to be growing even as I look at him," Vera admitted dubiously.

"In a week, at this speed, he'll have reached maturity!" Lance's eyes were shining at the speculation. "I think there is a reason for such speed, too. Martian cells mature at a terrific pace because they have an inherited strain to work against gravity far less than ours. Though the gravity here is of course earth normal, I believe those cells are constructed to work with terrific energy against that drag, producing growth far faster than anything we know."

Vera sighed a little. "I suppose," she said slowly, "I ought to be interested, but somehow I'm not. Despite the science of this year of 1987 I think some things are better left alone. It piques me to think that our theater date was cancelled because of a glorified worm."

Lance put an arm about her shoulders. "Don't take it too hard, honey. This experiment if properly conducted may put me right in line for being boss of this Institute. That means plenty of money for us, I've got to give this thing all the attention I can. I've even made arrangements to sleep in the building for the time being in case of sudden developments. In a week the experiment will be finished. . . I've got your penknife for good luck," he finished, smiling, and pulled a much worn pearl handled knife from his smock.

The girl laughed a little. "You *do* rely on that, don't you?" she said. "Still I appreciate the thought—that my present to you last Christmas should bring you luck. Better than rabbit's feet and all that kind of old fashioned stuff. . ." She broke off and gave a little shrug. "Well, I think I know the truth now. Guess the only thing I can do is be a good little girl and not bother you for a week—but if you postpone me again after that I'll walk out on you forever!"

Lance hugged her gently to him. "I won't do it again," he murmured. "That's a promise. . ."

VERA went quite effectually out of Lance's life during the week that followed—her business firm sent her on an urgent mission to Philadelphia, from which she only returned to New York late on the Saturday night. Before she thought of her own apartment she headed direct for the Public Laboratories, met the janitor as usual in the hallway with his bucket and mop.

"Just a minute, Miss Crawford!" He caught the girl's arm as she made to pass by. Surprised, she stopped.

"What's wrong, Briggs? I was going along to see Lance."

"Ay, I know—but I don't think you oughta." The old man's rheumy eyes searched her face. He glanced quickly toward the solitary laboratory door at the end of the passage.

"Mr. Halworthy's been acting strange these last few days," he went on anxiously. "This morning we found him in the lab. all bent up like a man who's had a terrific disappointment. He'd smashed the case too that had that horrible thing inside it—I reckon the experiment failed and he got savage. That's what the staff think. Several times today he's been out, carrying stuff. Once he had a sack full of stuff on his shoulder—"

"Well, so what?" the girl asked, impatient at the old fellow's rambling talk. "His car's outside, I notice. What's the matter, anyway?"

"I dunno. . ." Briggs ruminated. "He's locked himself in that laboratory, and won't come out. Now no man should do that—"

"I'll get him," Vera broke in quickly. "Thanks for the news, anyway."

She swung round and headed for the laboratory door, rapped on the panels.

"Lance, let me in! It's me—Vera. Open up!"

For a second or two there was no response, then came the sound of quick footsteps. The lock clicked and the door opened gently. The girl slipped inside and closed the door quietly, turned to face Lance. . .

To her surprise he was neither weary nor dishevelled. Instead he was remarkably neat, dressed in his best suit, his black hair brushed firmly into place. Only his face, deathlike in its pallor, seemed to indicate some hidden strain.

Vera glanced past him for a moment towards the smashed case wherein the Martian embryo had been growing. She turned back again, smiling sympathetically.

"Then it failed, Lance?"

"Partly," he answered rather ambiguously, and frowned for a moment. Then his blue eyes turned to the girl with a brooding stare. Somehow she didn't like that stare: it had not the calm, balanced intensity she usually admired. In some way it was furtive, yet in another, paradoxically enough, it was masterful.

"Well, I—er—" She hesitated, vaguely puzzled. Then asked as brightly as she could, "Well, what do we do now? No good moping around here, is it? Besides, you're all dressed to go out. Maybe you were expecting me?"

He nodded very slowly. "Yes—I was expecting you." Again he studied her in silence, then suddenly he seemed to make up his mind.

"I've something important to show you. Come with me."

He put on hat and coat, then took her arm in a tight grip. Puzzled but submissive she marched beside him as they left the building: she noticed he completely ignored Briggs—went right out to his parked car and held the door open.

"Hop in," he ordered briefly, then he

settled beside her and started up the engine. . .

"But where are we going?" she demanded, as he drove away from the main street leading to the heart of the town.

"I've an experimental cellar over on the east side which you've never known anything about," he answered shortly. "I've got something there that's going to interest you. . ."

"Oh. . ." Vera became silent, inwardly perplexed. For a reason she could not understand she felt oddly afraid. Lance's manner was so strange, his voice so cold and jerky. It seemed that some deep inner emotion was holding him. . .

HER wonderment deepened as he skillfully swept the car in and out of side roads, skirted the edge of the city center, and at last drove into the dingy regions of a deserted quarter of the east side. She gazed out frowning, on long disused graneries and almost windowless, obsolete factories. . . At length they came to a drearily lighted stretch of harbor wharf. Lance pulled up with a jerk and scrambled out.

He helped the girl to alight. Mist clung around them, full of the oily odor of the harbor waters slapping round wooden columns beneath their feet.

"Where on earth are we?" Vera whispered, turning up her collar.

"This way," was Lance's brief answer, and he led her down a gloomy stretch of alley way to a solitary, shadowy building. He stopped before an old and grimy window, raised the sash and climbed through, helping her in after him.

"Used to be a chemical storage warehouse," he said curtly, and pulling out his torch flashed it around long forgotten supplies against the wall. There were straw wrapped acid bottles, coated

in dust, crates falling to pieces from disuse.

"Useful place," he went on, in the same short way. "Nobody ever comes here—that's why I use it. My cellar is down below here."

He strode to an iron ring in the floor and lifted up a square of stone, waved his beam down a flight of mildewed steps. Filled with growing doubts the girl obeyed his behest to descend, went down into a huge cellar, obviously long forgotten, its floor thickly coated with dust. Against the walls were tiny iron gratings for ventilation.

Carefully Lance lowered the stone back into place, waved his torch beam on the walls, allowed it to halt at length on a massive dusty chain stapled to the brickwork. At the end of the chain was a circle of metal with a heavy padlock in its center.

A little chill crept through Vera as she stared at it. She turned suddenly.

"What's that for?"

"Dunno—unless perhaps wild animals were once stored down here. No telling."

"And—and you experiment in this awful place?"

"I *shall*," Lance answered very slowly, and in the reflected torch beam Vera saw his eyes very cold and clear watching her. His face too was different—set and hard, with a mouth compressed into a tight, cruel line. Her fear leaped suddenly to the surface.

"Lance," she whispered, her throat dry, "what's come over you? Why do you look at me like that? I—"

Then she broke off with a sudden scream as, dropping his torch to the floor, he suddenly seized her arms in a grip of iron, forced her backward relentlessly.

She kicked and struggled as she was lifted from her feet and hurled against the wall. Something of rigid hardness

snapped round her waist with a sharp click. Once that happened, Lance released her and she stared dumbly down to see that circlet of metal round her middle, the padlock securely snapped in position. . . With a faint grin Lance dropped the key in his pocket, picked his torch up and stood surveying her.

"Lance, let me go!" she screamed hoarsely. "Lance, you—"

"Shut up!" he broke in curtly. "You'll be safe enough like that for the moment. I'm not trying to hurt you—nor do I intend to. Just that I prefer you locked up for the moment. I'm leaving you now. I'll be back shortly."

"Not alone—like this!" she shouted desperately.

"Yes," he said stonily, and with that he turned. Horrified, Vera watched him go with his torch up to the slab in the roof. Then it closed down and she was alone in the darkness.

CHAPTER II

Vera Learns the Truth

FOR several seconds the stunning shock of her position did not penetrate—then gradually vitality and awareness returned to her. With a savage desperation she twisted and turned on the chain holding her, tore at the manacle of steel round her waist—but nothing yielded in the slightest. The lock, what little she could see of it in the dim light filtering through the ventilators, was a brand new one, self locking, only released by the key Lance had in his pocket. Then he had deliberately bought it to hold her!

Weakly she relaxed, sank down slowly to the stone floor and tried vainly to figure out what was wrong, what Lance was getting at, what had happened to him during the Martian experiment to make him behave so queerly. Solution failed her. She finally gave herself up

to fearful waiting—then after what seemed eternities sounds reached her, the circle of the torch appeared in the roof.

Scrambling to her feet she called huskily.

"Lance, in Heaven's name what are you trying to do? Release me—please! Please!"

He took no notice. She fell quiet, watching him as he moved around. He made several journeys up above, each time bringing down a piece of apparatus that glittered brightly in the light of the torch. He was engaged on the job for at least an hour, then apparently satisfied, the stone back in place, he came forward. With unwavering steadiness he pointed the torch beam at the girl and she slitted her eyes against the glare.

"Before you have something to eat there is something you must see," he said, and his voice was very slow and gentle now. Gradually he turned the torch back towards himself, held it below his face so that the girl saw only his eyes thrown in relief.

"Look at me!" he commanded, going closer to her. "Look at me very steadily.

She tried to look everywhere else but at those eyes. She tried to scream, and could not—tried to speak but her tongue was still. Everywhere was black: there was only those two eyes. She felt forced to stare into them, and the longer she stared the more she felt her senses were reeling. . .

The darkness became shot with bars of light. Her head began to ache intolerably. Then, with dazed wonderment, she realized she was somehow a detached observer of events unknown. . .

THE cellar had gone. Instead she gazed, from a considerable height apparently, upon an other red planet—now not a dead world streaked with the

lines of drying canals, but a world of seas and continents like Earth. It teemed with life in every direction, bore the mark of prosperity upon it—

Then out of nowhere came sudden cataclysm and destruction!

Writhing skies, hurtling bolts of electric energy, incredible flame and winds. Cities crumbled like decks of cards, oceans boiled and whirled upwards. Martians, weirdly fashioned, died by the untold thousands. . .

The view switched to a green world—Earth. Earth receded until it assumed its proper planetary perspective in the cosmos. Earth and Mars were both in view, but between them, clear against the ebony black of space, was a plainly visible green bar that seemed to connect the two worlds together.

From somewhere a voice was talking, low and droning.

"Centuries ago Earth was dry, even as Mars is today. It came about because a stupendous inner expansion of gases started a great fault across the world, which caused the mountains of the present day—otherwise Earth would be flat, as Mars is. The fault sent water pouring into the Earth's hot interior. There was a conflict of titanic forces. Earth's seas were converted into steam, blasted forth with such terrific power that they went far beyond atmospheric limits into space, never to return.

"There was rain afterwards, but utterly insufficient to provide the world with the seas it had lost. At that time life of a very high intelligence existed on the Earth, the cities of which people are still found in part today. Those minds understood the forces of the cosmos, moulded machinery and, to replenish the Earth robbed Mars of its seas and practically all its atmosphere. The Deluge of Biblical history refers to the coming of the Martian seas to Earth through electrically devised space tubes.

Nearly every Martian was destroyed.

"A few survived. Someday, presumably scientists would come to the red planet and conduct a thorough investigation. It was decided that life cells should be removed from several chosen female Martians and be sealed in the tallest towers of the city. As time passed, the cities sank under the sand—but at last one set of cells was found, was artificially fertilized and brought to life.

But the deep rooted Martian hereditary strain remained — remembrance, and desire for revenge. To destroy Earth, even as in the dim past it had overthrown Mars for its own selfish ends. . . ."

VERA felt herself slowly floating back to the consciousness of her own self. Lance's eyes were still watching her, but their mesmeric power had gone. Incredulously she realized that he had literally hypnotized her into seeing those things, those visions of another long dead world. Hypnotism of a power beyond all normal bounds.

"Before the Martian died I learned these things," he said slowly. "He changed me—willed me to perform a certain task in life. I was ordered to avenge, and nothing can stop me!"

For a long time the girl stood in silence. Strange thoughts were battering at the back of her mind.

"Then—then the Martian spoke to you in English?" she faltered.

"No: he hypnotized me just as I have just done with you. I saw what you have seen. Then something happened to my brain. I was given certain scientific secrets and commanded to avenge. It was an inescapable order. . . . Then the Martian died. Atmospheric pressure was wrong—I think I went mad. I destroyed the corpse and smashed the case. . . ."

"And why should I be fastened up

like a criminal?" Vera demanded curtly.

Lance moved forward and unfastened the padlock, released her with a quiet movement.

"It was only while I was absent. I can't allow you to escape until my work is finished. Had you done so you might have died with the rest of the people, and I don't want that."

"Died?" She stared at him blankly. He smiled coldly.

"I have rather an ingenious plan to follow out," he explained. "The Martian outlined it to me. The atmosphere, as you may know is made up of oxygen and nitrogen, both retaining their ability to stay isolated. The nitrogen takes up four fifths of the atmospheric volume and it also prevents the savage burning of energy which would take place with only oxygen present.

"Now, under certain conditions, nitrogen will unite with oxygen to produce N_2O , nitrous oxide—better known as laughing gas. But, fortunately for human beings, this unity does not take place in the normal atmosphere. The production of two atoms of nitrogen to one of oxygen can only be accomplished as a rule by terrific heat or a lightning flash. The latter means obviously indicates electricity—but it is not the strength of the voltage which is so essential to produce a unity but the length of the ether wave disturbing the basic atoms to a common unity.

"It does not require vast machinery to unite oxygen and nitrogen in the proportions of two to one; it merely requires the electric energy of a specified wavelength. That wavelength was given to me by the Martian. Right here I have the machinery necessary for the job, brought from the laboratory. That was where I went when I left you. Deep under this cellar is a sluice from the harbor, strong enough to run that small turbogenerator there . . ."

"But what are you going to *do*?" Vera cried.

"Isn't it obvious? An electrical wavelength generated from here will pass through the intervening concrete and affect the atmosphere in whatever direction it is aimed. More than that—the atmosphere is never still. It moves ceaselessly, with a circular whirlpool motion. Imagine then that part of the atmosphere immediately over us is altered in its basic elements—the nitrogen combines with the oxygen. The changed area drifts onward and another atmospheric area floats into position to be likewise changed. Gradually an increasing expanse of nitrous oxide will be on the move. Around New York there will begin to settle an atmosphere that is actually anaesthetic . . . and which will never alter once the combination is effectually started."

VERA could only stare in dazed horror. The words she uttered were scarcely audible.

"You mean poison the atmosphere of the whole *world*?"

"The whole world will take a long time," Lance said, brooding. "I propose to wipe out city after city. First, this great metropolis—then unless the atmosphere has drifted to other cities, I shall attack them as well. Little by little I'll destroy them all—wipe out humanity entirely."

"But it's fantastic—impossible!"

"Not at all. I have the apparatus and I know the wavelength. The rest is merely continuing the duty the Martian assigned to me."

"You can't do it, Lance!" The girl seized his arms in sudden desperation. "Lance—you can't do it! You've gone mad, or are hypnotized, or something. . . . Besides, even supposing you tried to get away with this, don't forget that humanity will wear gas-masks for pro-

tection. They'll go underground . . ." she wound up desperately.

"Gas-masks were ruled out with the Peace Pact of ten years ago," he answered grimly. "Humanity will fly underground, I agree—but in time the gas will reach them. In five years not a thing will be alive on the planet, except you and I. Then we'll talk further. We have masks," he finished quietly, nodding to them as they lay on the floor. "They're laboratory masks, and quite effective."

Vera stared at them, frowned momentarily. "But there are three masks there—not two—"

"I believe in being prepared . . ."

CHAPTER III

Vera Makes a Discovery

LANCE turned suddenly, and motioned the girl across the cellar.

"Better eat something," he said briefly, picking up a tin of corned beef from the supplies he had brought along. "I'll bring some more tinned stuff later. This will do for now . . ."

Vera took the tin from him, began to twist the key in her slim fingers. The strip of tin snapped off. Impatiently she swung on Lance as he stood surveying his machinery in the torchlight.

"Here—you open it," she said brusquely. "You've a can opener on that pocket knife of yours . . ."

He felt in his pockets and shrugged.

"Guess I've left it behind . . ."

"What! Your lucky mascot, and on an occasion like this!" Vera stared at him incredulously. He failed to return her look, took the tin, then picked up a short, blunt bar of steel from his equipment and rammed it into the gap—rather too vigorously, for he misapplied the pressure and slashed his palm along the jagged tin edge.

Vera winced in sympathy with him, knew instinctively that that cut had gone to the bone. Almost automatically she tugged out her handkerchief . . . then it dropped from her fingers as Lance merely shook his hand a little and went on pulling. At last he had the tin open, threw away the lid.

"Didn't—didn't you cut yourself?" Vera stammered, dumbfounded.

He shook his head slowly as he handed the tin to her. She saw quite clearly his hand was not even marked.

She took the tin absently, was hardly aware how she started to eat. She had a remembrance of raking out the stuff from the tin and of drinking some unpleasantly fizzy pop—but it was not her physical reactions that were concerning her. She was thinking—hard, fitting together certain little odd incidents and remembering half forgotten facts.

The three gasmasks, the missing pen-knife, and now a hand that should have been cut, and was not. And the memory of that all powerful hypnotism: the even remoter memory of something about cellulose . . .

"SAY, any objections if I walk around?" she asked suddenly.

"None at all—but don't try and escape." Lance was too busy with his machinery to take much notice of her.

She turned and strolled casually enough along the length of the cellar, going further and further into the deeper shadows at the remote end. Once or twice she glanced back to behold Lance still busy with his apparatus—

Then suddenly she stopped, her heart beating faster. The cellar was not complete in itself. At its remoter end was a massive, ancient door, obviously leading to yet another underground place beyond. The girl regarded it thoughtfully for a moment, then stared at the

dust ridden floor. She stooped, stared fixedly at two long troughs gouged into the film, troughs such as heels might make if a body were dragged! And they vanished right at that door!

The sack Lance had carried from the laboratory which the janitor had seen . . .? Vera's eyes narrowed in thought. She tried the door; it was locked. Just in time she turned back to Lance as he stood regarding her suspiciously.

"Satisfied?" he demanded bluntly, as she came up to him.

She nodded slowly, glanced at the short metal bar he had used to open the tin. Then she stood in silence until the interest of his machinery got him again. Slowly, without distracting his attention, she picked the bar up. It was comfortably heavy in her hand. . . .

It took all her courage to perform the next action. With every ounce of her strength she whirled the bar through the air directly on the back of the head in front of her. Lance dropped instantly, to the floor.

In a moment the girl was down on her knees, searched through his pockets and pulled out every key she could find, then holding out the one that obviously fitted the cellar door she raced towards it, torch in her free hand.

The lock turned under the key. She saw as she swung the door wide that it was of tremendous thickness—clearly explained why no sounds, if her guess was right, had penetrated through.

A figure against the far wall turned slowly as she flashed her torch before her—a figure only half dressed and shackled to the wall by chain and waist manacle, even as she had been.

"Lance!" she screamed. "Lance! It is you! I was right. . . ."

INSTANTLY she flung herself forward, searched through the keys

until she found the right one to the manacle. Lance tore it aside, flung the tumbled hair from before his eyes.

"What—what on earth are you doing here?" he demanded. "Did that devil capture you as well, then?"

"I walked into it," she answered quickly. "But tell me, how are you? O. K.?"

"Considering everything, yes—but how'd you find me?"

"A hunch, I guess—in fact several hunches. Finally I was convinced that that thing in there wasn't you—but a perfect imitation. It's the Martian, isn't it, and it carried you from the laboratory in a sack?"

Lance nodded grimly. "When it reached maturity it smashed open its case and attacked me. I tore out my knife to save myself but I wasn't quick enough. It hypnotized me, drained my mind of every thought, learned the language—everything. I was shown its whole scheme of vengeance. It told me it would preserve my life because it had more to learn from me. Then, completely under hypnotic control, I was forced to provide the thing with clothes. I went home and got them for it. Then it took me away in a sack, and I couldn't raise a finger to help myself. Some kind of instinct led the thing to this out of the way spot. I got chained up and—" Lance broke off, shrugged. "That's all there is to it."

"For my part," Vera said, "I remembered you saying the thing was pure cellulose. I also remember from my science school days that cellulose can do almost anything from imitating any known object to adapting itself to any known condition. I was finally convinced the thing *was* cellulose when it cut itself and almost instantly healed itself by adaption to the circumstance. Somehow, I realized, the thing had imitated you—"

"Exactly," Lance broke in quickly. "It has Martian intelligence of terrific power: it patterned itself after the nearest living object because of its earthly fertilization. *I* was the object. . . . But—but how did you escape from it?" he demanded in amazement.

"I hit it on the head so hard and so suddenly it hadn't the chance to adapt itself. It's planning world destruction and—"

"I know," Lance broke in seriously. "We've got to . . ."

He broke off suddenly and gripped the girl's arm. The Martian was standing in the doorway, set faced, eyes glittering.

"Run!" Lance commanded suddenly. "We can't fight this thing. Follow me!"

SIMULTANEOUSLY with the words he hurled the torch straight at the creature: it took it off guard, sent it reeling to one side. In that split second Lance and the girl were through the doorway, stumbled across the black cellar and up the steps to the stone trap. Behind them the Martian's footsteps were pursuing.

Desperately Lance pushed up the stone, flung it to one side, then dragged Vera up behind him—almost hurled her to the open window giving egress to the wharf outside. She got through, but not so Lance. A terrific pain stabbed through his skull as the tremendous hypnotic power of the Martian smote on his nerve centers. He reeled dizzily, came up hard with his back against bellying masses wrapped in straw.

Dimly a thought revolved in his mind. No ordinary weapons would kill this infinitely assimilative creature—But acid? Acid and cellulose . . .? With a last desperate effort he hurled over the bottle nearest to him and forced himself back.

Fuming, spurting smoke rose on the

air, thick with acrid fumes. At that same moment the Martian came forward. He slipped in the sizzling liquid on the concrete, fell face down into it. . . .

Sickened and half blinded Lance staggered round the dry portion to the window, scream after scream ringing in his ears as the deadly stuff decomposed the cellulose hybrid far faster than its assimilative powers could build themselves up to the sudden change.

Somehow, Lance realized he got through the window, stood sucking in great lungfuls of air. The girl's arm was on his shoulders. Things were quieter now: the screamings had ceased.

"Naturally, cellulose dissolves almost

instantaneously in nitric acid," Lance muttered, when he got his breath back. He stared into the dark space through the window. "Whoever forgot those acid jars didn't realize they'd saved the world," he went on slowly. "And you, dearest . . . Beyond question the Martian only spared your life with ideas of later matchhood. He meant to save me too to drain my mind of all earthly knowledge. Hence the three gasmasks and—"

"Forget it," the girl whispered. "It's over. The car's round the corner. Drive home and I'll slip in and get you an overcoat. Then we can come back and throw that machinery into the harbor or somewhere. . . ."

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Beneath the ship raged uncanny flame, and they had to land—somewhere!

THE FLAME FROM NOWHERE

By EANDO BINDER

Nothing on earth could halt the advance of the deadly fire from space. Even water burned like gasoline

CHAPTER I An Unquenchable Fire

JUST how it started, no one seemed to know. But there it was, a raging fire. It sent most of Jed Polty's fine timber up into the flues of heaven and looked like it might take the rest of Wisconsin in its stride. Long skyscrapers of flame licked up toward the clouds, sparkling like Fourth-of-July rockets. But there wasn't much smoke. That's why it had taken so long to discover.

"Forest fire! Forest fire!"

The cry went around the countryside in a wail of terror. Men dropped whatever they were doing and hopped into cars to join the swelling procession. There were other timber patches, and farms and towns threatened, depending toward the fire.

It was a case of everyone helping for his own as well as the common good, on which way the wind blew. And which way the wind would blow from time to time while the fire kept up, no one knew. A long, dry summer just passed made everyone feel it was going to be a tough, hard struggle. Demon fire against grim, cornered humans. The battle was on.

Jed Polty, already a ruined man, marshaled one corps of men in a fight of bitter revenge against the enemy. At the south gap, where the fire converted

the last of his cedar into gaunt, black skeletons, he saw his chance. For a mile facing the fire was scrub land, not very fattening to a greedy fire.

But if even *that* poor fuel were taken away . . .

His men fell to with a will. The wind was blowing right, toward the fire. The men spread over that mile in a long line and set the scrubble aflame. It started slowly, throwing up a huge, dense smoke screen. But the sharp wind whipped it up and sent it scurrying to meet the other fire. Fighting fire with fire—it was a tried and true maxim. Then the men stood back to watch.

"That'll stop you!" screamed Jed Polty, hurling his first at the fire that had turned him from a potentially rich man to a pauper in an hour. He stood there, shouting a string of epithets almost as scorching as the thing they personified.

"Somethin' funny about that there fire," said another man. He sent a golden stream of tobacco juice in its direction, speculatively. "It's a-comin' right into the teeth of the wind without slackening up any, far as I can notice."

It was true. They all could see that. A normal fire, changing from rich forest fuel to skimpy bush-scrub, especially against a wind, would peter out, or at least slow down. This one didn't even slow down. Its hundred-foot flames

continued to probe the sky, like search-light beacons. The flame-streamers did not even bend noticeably with the breeze.

The two fires met, intermingled. The watchers perked up. Now the other fire would have to stop. There was a hundred-yard stretch of seared, barren ground before it. No fire known to man could find anything left to burn in that black belt.

As though they had been puppets jerked by one string, all the men started. A gasp came from their dry throats.

The wall of fire did not stop!

ASTONISHED, frightened faces looked at one another. The hair of every man there stood on end, stiff as wire. An invisible silent wind seemed to buffet them from the direction of the undiminished fire. A strange, awful wind separate from the one that blew the air at their backs.

"That's the d-devil's own fire! J-Jed, come on—"

Jed Polty shook off a hand. He stood there and stared, thunderstruck. He was vaguely aware of men scurrying back, frightened away. Dimly he heard car motors start and roar away. A voice called to him frantically. Jed ignored it. He rubbed a gnarled hand over the three-day stubble on his chin, bewilderedly.

Alone, Jed Polty began walking toward the fire-wall. A deep blind anger filled him. He must find that scientist chap and wring his fool neck, for undoubtedly he had started the fire. Jed should never have let him use the cabin deep in his timber. Wring his neck. Jed's hands were doing that already. His face was twisted.

The mysterious wind tore at him. His eyes smarted and his throat became parched. His hair stood out stiffly from

his head. At each step tiny fingers of electricity played about his shoes from the ground underfoot.

Strangest of all, however, there was little heat from the fire, as he drew close. And no smoke. It seemed almost like a phosphorescence, cool and dull. Against the sunlit sky, the tall ray-like flames were almost invisible. But they were unmistakably there, burning up from the ground, crawling forward inch by inch.

Wring his neck, the blasted fool! Jed Polty walked into the curtain of flame. He didn't burn up on the spot. His dazed mind took no account of that. But something did work inside of him, in his individual cells, making him feel tired and worn.

He wandered blindly in the flame-curtain, seeking the cause of his ruination . . . Jed Polty died hours later, an old, old man.

IN THE meantime, to the west where another patch of valuable timber was threatened, men labored like slaves to save it. Colonel Dale, owner, alternately cursed and bribed his crew. If his timber went, so would his palatial home and all his life of comfort. His wife and children would be heart-broken.

"Ten dollars to every man here—ten dollars!" he stormed, prancing up and down the line on his great horse. "Get those trees down! You, Hank—stop leaning on that axe! Damn you for a lazy, good-for-nothing—" The rest was vituperation.

The men toiled in the hot sun, sweaty and begrimed. For twenty feet back from the creek, every tree was felled and dragged away by teams of horses. The creek was twenty feet wide. The fire wouldn't be able to jump that natural gap if its fuel on the other side was out of reach.

The colonel's head constantly jerked around to watch the advance of the fire. It was uncomfortably close, but by a narrow margin they would win.

But every time the colonel looked, a puzzled, worried frown creased his brow. Somehow, the fire was the queerest one he'd ever seen or heard of. It made no smoke, even with its green timber fuel. No heat could be felt from it. And he noticed the peculiar electric tenseness that pulsed in the air.

Colonel Dale was most startled when he drew out his watch and saw the radium-dial glowing like a beacon. He tried to remember what he had learned in college about such things, but that was too many years ago. But why should he worry? Water would stop it. Water always put out fires.

Finally the timber patch had been cleared off the bank of the creek. All was set. The men lined up along the creek, ready to beat out any small flames that might fly across and try to start on their side.

"Good work, men!" yelled Colonel Dale. "That fire won't get into my land."

He waited confidently. The towering wall of fire loomed up on the opposite side. Like a fiery giant on the rampage, it laid waste the forest. Colonel Dale frowned again. Somehow, it didn't look like burning. No ordinary burning. Trees seemed to shrink in its path, as though something were sucked out of them that went streaming off into the sky.

And it was such a silent thing. It had none of the majestic roar and crackle of most forest fires. There was only a low, hissing drone, like a transformer. Colonel Dale thought of that simile because there was a distinct electrical quality to the fire. He had already glanced around to see everyone's hair on end. His own crackled when

he tried to brush it down.

The Niagara of flames pushed to the edge of the creek.

"That's as far as you get!" muttered Colonel Dale.

Then his eyes began to pop out of their fat folds of flesh like marbles in putty. *The flames simply began burning on the water!* The unbroken wall advanced across the creek like a marching army, driving them back.

Men screamed. They fled in a stampede. Colonel Dale's horse bolted, throwing him against a tree and breaking his neck. His dead body lay there as the demon of fire crawled up the bank—his bank—and reached for his timber.

Timber that hadn't been saved by a creek-full of water before it.

IT WAS the same all that day, on all sides of the fire. But *was* it fire? Strange stories began to drift in around the countryside. Eye-witnesses swore that a newly plowed field, in which you couldn't start a fire with a blow-torch, had burned just as though it were paper.

Nothing could stop it, apparently. Creeks, backfires, sand-ditches—nothing. Unnameable fears haunted the area surrounding the fire, toward which the flames were spreading. What ghastly thing was happening? Why did flames that had consumed their natural materials fail to die away in fuel starvation? What incredible ultra-fire could feed itself on water, on moist ground, on sandy soil, as though they were inflammable?

Late that evening it rained. Rained hard. A dubious prayer of thanks rose from thousands of hearts. Rain like that could always put out forest fires. But men who had gone to see came back gaunt-eyed and shaking. The terrible fire had not gone out.

In fact, the flames had risen higher with the rain, greedily licking up the

drops as though they were gasoline!

The next morning it was in the papers, ridiculed as the Fire-That-Could-Not-Be-Put-Out. By evening, after reporters had rushed to the scene and observed, it became the nation's number one item. Even the latest big-time murder in New York's vice ring could not compete with it.

But the world of science, not to be misled by common newsmongery, quietly ignored the astounding reports. Officials pigeon-holed a frantic plea from the county sheriff of that region for up-to-date fire-fighting apparatus from the great western forest reserves. The latter were too important to leave unguarded for a moment because of a puny little fire in Wisconsin.

And all the while, the mysterious pseudo-fire continued its course, like a Juggernaut, laughing at man's efforts to stem its inexorable spread.

CHAPTER II

Dan Nelson Seeks the Answer

DAN NELSON pulled up in Tipler, Wisconsin, to find that little town in a big-town furor. Cars were leaving, packed to the gills with family belongings. Other cars were arriving with men enlisting in the fight against the fire. Typewriters clacked from the open windows of the main hotel, where newsmen rattled off their exciting stories.

Tipler was the nearest town to the fire. It would be the first to be engulfed if they couldn't stop it. A glow in the sky, barely two miles north, was the cynosure of worried eyes and constantly craning necks.

Nelson hopped out of his car and took a room in the hotel, the last one available. Then he went outside and listened to the buzz of conversation among loiterers. What he heard convinced him,

against his will, that the letter he had was more significant than he liked to think.

He went up in his room to read it again. It had been mailed from Tipler a week before. Its pages were in the crabbed handwriting of Dr. Anson Berg. For the past three years, during his summer vacations from the university, Dan Nelson had been Dr. Berg's assistant in his private researches.

"Dear Dan," it began. "Northern Wisconsin is God's own country, but of course I did not come here, last year, to enjoy the climate or scenery. I came here for seclusion in my research, and secondarily to keep from blowing up half of Chicago—in case. You will see what I mean later.

"My cosmic-ray photon collector is a wonderful success. I'm proud of it. It is, as you remember it in cruder form, a large glass bulb coated with pitch and supported in a magnetic field. The magnetic field refracts the entering radiation enough to make the photons rebound from the neutron-screen embedded in the pitch covering. I won't go into full detail. You know most of it."

"At any rate, my dream has come true. The cosmic-rays rain down as a veritable flood of energy from interstellar depths. I've been collecting cosmic-ray photons for eight months, in my glass bulb. I have close to a milligram of them. You recall, of course, that a *pound* of pure energy—say in the form of infra-red waves—is enough to melt thirty million tons of rock.

"In actual terms, my milligram of cosmic-ray photons is equal to more than *one billion horsepower!*

"To put it a little poetically, I've tapped the power reservoir of the universe. It was Auguste Piccard who said, 'I advise all of you who own shares in coal mines to sell your shares in them

the day before the liberated energy from cosmic-rays is harnessed.' That's good advice, Dan! I really believe this can develop into a commercial process antedating Niagara and Boulder Dam, etc.

"I had a graphic example of the amount of power in my hands, a week ago. I drew off a mere trifle of my milligram of photons and sealed it into a small capsule. My idea was to convert it into electricity. I left the capsule on the table in the shed while I went back for something in the cabin. It probably rolled off—an explosion blew one side of the shed out and turned my table into kindling wood. I never found a piece of the Gieger-Muller apparatus I'd been using.

"Sometimes I stare uncomfortably at that glass bulb. It holds a dozen Boulder Dams and Niagaras in its dark interior. I have the terrible sensation of sitting on top of a volcano. Perhaps I've let my enthusiasm run away with me. I collected and hoarded the energy like a miser with his gold.

"I think tomorrow I'll drain most of that energy out of the bulb. I don't need so much for further tests. I can ground the power.

"But anyway, it's been a success. As soon as I find a way to convert that raw energy into electricity, I'll patent the process and see what comes of it.

"Au revoir, Danny. I'll expect you here next month."

DAN NELSON looked up from the letter, his face awed.

"One billion horsepower of raw energy!" he said aloud. "Like a mountain of TNT in a hat. It must have exploded, or escaped, setting fire to the cabin and forest—yes, but what *kind* of fire?"

He dashed out and leaped into his car. A half hour later he had reached the nearest wall of the fire, where it was

ferociously eating its way across a boulder-strewn, sandy stretch of poor land. Fantastic, supernal flame reared over his head, feeding on nothing that ordinary fire would have touched. No heat, no smoke, no light, and it gave off electrons which were making his hair stand on end.

Nelson stared, puzzled, trying to figure it out. Suddenly an abysmal fright squeezed his heart. He thumped the side of his head.

That ground wasn't burning—it was *disintegrating!*

Nelson's mind reeled.

Dr. Berg had been a fool for playing around with cosmic-rays without due precautions. He should have foreseen! Cosmic-rays had always been streaming down on earth, disintegrating atoms, but only in a minor degree. Earth could withstand that mild bombardment for countless ages. But Berg's concentrated charge of cosmic-ray photons had started off a true holocaust. It was like the difference between the slow rotting of wood and its rapid burning, which were the same process actually. This fire from the stars would destroy earth long before its time!

"What have you done?" Nelson whispered, as though accusing the ghost of the dead scientist. "God—you've destroyed the world!"

Nelson's thoughts horrified him, as they charged on. It was like a nightmare that he couldn't awake from.

The circle of atom-fire would spread, consuming all in its path. Mountains, trees, rivers—even the oceans would burn, for they were its fuel too. Cities would crumble, vanish—all life would be destroyed. But the atom-fire would continue greedily, sucking down the air to burn it. Then it would eat inward, like a cancer, to the center of earth, till the world he knew was nothing but a cinder. No not even a cinder—there

would be nothing left—nothing—

"Hey, are you deaf?"

A tall, lanky figure grasped Nelson's arm, startling him.

"I'm Sheriff Mack. I don't know who you are but I'm conscripting every man I see. Come along. We're going to try to save Tipler."

Nelson laughed bitterly in the bedraggled, sweaty face.

"The town? Is that all you're worried about?" he asked. "Given enough time, this atom-fire is going to engulf the entire world!"

"WHAT?"

The sheriff peered closely at Nelson, visibly impressed by his manner and appearance.

"Atom-fire? What do you mean?"

Nelson tried to explain.

"This is a disintegration process, set off by cosmic-ray photons, like a spark sets off gasoline. Matter has an ignition-point, that starts its disintegration, just as combustible fuels have. And once started, that atomic-fire continues, for all the world, and everything in it, is its fuel! Anything made of atoms and molecules. And that includes anything you can name on earth. This isn't a local matter any more. This is a menace to the whole world!"

"Yeah?" Behind the sheriff's drawl was stark fear. He had seen enough of the fire to know it wasn't anything normal. "Then we'll have to find a way to stop it."

"I don't know if there *is* a way!" Dan Nelson found himself croaking.

Sheriff Mack looked at him queerly.

"There's got to be!" he ground out. "We're going to try to choke it off with fresh concrete—a big wall of it—"

Nelson threw up his hands and left. He went back to his car and headed for town. He tried to think of something to do. Notify the authorities of

his conjectures? Try to get scientific minds on the job? *But would there be time?*

Nelson sweated, but from more than the heat. In a way, he felt personally responsible, for he had helped Dr. Berg develop the bulb in its earlier stages. But aside from that, it was his problem anyway, as it would be the problem of any other human being who knew what the fire was and what its continued depredation meant.

He neared the town without having decided on any definite course of action. He arrived just in time to see a gyrocopter plane settling at the outskirts. On impulse, Nelson turned toward it. Ordinarily its arrival would have brought the whole town out. Now, it was unnoticed except by a few barefooted kids.

Nelson drove close to the plane.

"Cameraman?" he inquired of the short, stocky man who clambered out of its rear cockpit.

"News service," nodded the pilot. "I'm here to take pix of the fire. Say, what's all this about they can't put it out? Whatsamatter with these hillbilies?"

Nelson took out his wallet and waved a ten-dollar bill.

"Take me up with you?"

"Against the rules, Buddy," returned the cameraman, taking the bill and grinning. "But I've got to have some eats first, and gas for the buggy. I drove it all the way from Chicago."

CHAPTER III

A Lifetime in a Day

AN hour later, Nelson and the cameraman were circling high above the fire area. Nelson peered down anxiously. Just how fast was the atom-fire spreading? He saw that it had already

eaten out a circle roughly five miles in diameter. Some rapid mental calculation convinced him that its diameter increased at an unchangeable rate. Unlike a true forest fire, it was not subject to the vagaries of wind and available fuel.

Therefore, the larger it got, the more rapidly it consumed equal areas. In a few days—weeks at the most—it would sweep out like an express train, to swallow the earth whole in its fiery maw. Nelson shuddered.

But another thing engaged his attention and made him thoughtful. The fire itself was actually only a thin ring, perhaps a hundred feet thick. All the center area was free of flame. It was hideously black and seared looking—lifeless, chilling.

But it wasn't burning any more! Nelson's pulses throbbed with sudden hope. Then it wasn't a complete disintegration! There was ash from the atom-fire—black ash that didn't burn any more.

He twisted around in his cockpit and yelled across to the pilot above the rumbling swish of the gyrocopter blades.

"Hey, Reed—how would you like to make history?"

"Make who?" yelled back the pilot.

"History! History!" screamed Nelson. "Land down there—in the middle of the black area." At a determined shake of the pilot's head, Nelson half arose as though to force him.

"You've got to, man!" he pleaded. "What do you want—money? A hundred dollars?"

"Dangerous!" shouted back Reed dubiously, staring at Nelson's grimly earnest face. "We might crack up—want to take a chance?"

Nelson weighed that for a second. It wasn't just his life. But if he were killed now, and nobody knew what he knew, till it was too late. . . . But it might be too late anyway, in a few more

hours. If it once got out of hand, it wouldn't help for all the world to know to a man. It was a race against time and chance. He pointed down. The pilot nodded, set his lips grimly, and lowered the plane.

Fortunately, the thirty feet of landing space needed by the gyrocopter was free of dangerous rocks beneath the obscuring black blanket that lay over the ground. Nelson jumped out eagerly and picked up a handful of jet black matter that trickled as a coarse powder through his fingers. It seemed peculiarly heavy.

"Neutronic matter!" he cried jubilantly. "Neutrons stop a cosmic-ray cold, which was the way Dr. Berg captured them in the first place.* And neutrons are stable enough to resist this primary disintegration too. This dead, black stuff left after the fire is composed of them. All the elements that were here before are here now, but burned down to isotopes of neutrons. All excess protons, electrons and other particles were freed. The energy released is enough to keep the atom-fire going, but there's no excess heat. It all adds up!"

"Yeah? Must serve some good corn-likker around these parts. Adds up to what?" The pilot kicked at the black dust with his toe.

"To this—that no reaction, living or

* Neutrons, technically, are close combinations of electrons and protons, being electrically neutral. Harkins has suggested that the neutron is a new kind of matter with atomic number zero. It also can be compared to double-weight hydrogen atoms, which consist of one hydrogen atom and one neutron, thereby becoming electrically stable. It has been estimated that a thimble-full of neutrons would weigh a million tons, since they do not push each other apart but lie compactly together. Therefore, it seems evident that the "neutronic matter" left as ash by this strange atom-fire, is not essentially completely neutronic in character, but more likely, neutronic isotopes of the consumed matter, that is, double-weight atoms, with a single neutron added to each atom of matter.—Ed.

non-living, can continue in its own waste products!"

And then, in the eyes of the cameraman, his young passenger did the queerest thing yet. He began throwing handfuls of the black powder into the cockpit of the plane, as though his life depended on it.

"Hey, what's the idea? I don't want—"

"Have you a wife and children in Chicago?" Nelson demanded.

"Yeah, but what has that got to do—"

"Then you'd better help me!"

Nelson explained while he worked frantically. The pilot, a little pale, began helping.

THEY were both covered with soot, an hour later, when their plane rose and soared out of the ring of ultra-flame. Under Nelson's directions, the pilot landed it in the wide field a mile from Tipler, wherein toiling men were erecting a wall of concrete. Trucks, tools and materials from a nearby PWA project had been boldly confiscated by Sheriff Mack, for this desperate measure.

Nelson strode up to him.

"Oh, the scientist chap." Sheriff Mack's voice was cracked from shouting orders. "You said there mightn't be a way to stop that fire, but by God, we have to try, don't we?" His eyes, reflecting a gaunt doom, gazed off at the approaching flame-curtain, a half-mile away.

"We have to try, don't we?" he repeated doggedly.

"But this isn't the way!" cried Nelson. "I told you—"

The sheriff's face turned livid. "Get away from here!" he snarled. "What do you want me to do, sit down and snivel?"

"No, but I think there is a way!"

Rapidly Nelson told of the neutronic

ash.

"Black powder—neutrons?" echoed the sheriff. "Sounds too much like a science lecture, young fella—"

Nelson grabbed his arm tensely. "If they couldn't put out a normal forest fire in any other way, they'd choke it off with ashes too, wouldn't they? We've got to try it, anyway."

"You're right!"

The sheriff began barking orders. His men continued work on the concrete buttress, but he himself accompanied Nelson in a truck, after they had transferred the black powder from the plane into a bushel basket. They headed for the tall flames that cast a lurid violet light over the surroundings.

They stopped a hundred feet away, and ran up with the bushel basket between them. They hastily made a ridge of the powder ten feet from the straight, sheer edge of heatless fire that crept forward steadily over sterile sandy soil. Then they fell back to watch, with electrical tingling all over their skins.

The supernal atom-fire burned its way across the ten feet, met the neutronic powder—and stopped! With an audible hiss, the flames that met the powder were quenched.

"It works!" croaked Sheriff Mack. "Thank God—it works! Now we have to get all of that powder we can. I'll phone the governor—send for airplanes, lots of them—"

"No!" Nelson shook his head. "It would take too long that way. There's more than fifteen miles of the fire-edge to bank with these ashes. The fire-edge is enlarging at a terrific rate. There's only one way to beat time at this game—by going through the fire-wall with trucks."

Sheriff Mack gasped. "But the trucks will burn—their gasoline—the men—"

"Maybe not!" Nelson hissed. "There's only a hundred feet or so of

actual flame. And it isn't hot flame. If trucks go through fast enough, like circus daredevils through hoops of fire, maybe—"

"Maybe!" echoed the officer hopelessly.

"There is only one way to find out!" Nelson was already running back to their truck.

"Hey, you damn fool—"

THE sheriff had to jump out of the way as the truck came charging down on the fire. Nelson sat grimly at the wheel. He had driven trucks one summer vacation to earn tuition fees. But he was driving one now for a far more important reason. Just before he came to the fire-wall, he crossed his fingers. Then suddenly all the universe around him was on fire.

The truck tore on madly. Within the strange, cold curtain of ultra-flame, everything looked unreal, ghostlike, as a world viewed through swirling water. Nelson's only physical sensation was one of lassitude. He almost felt like stopping and lying down to rest, as though he were very tired. But his foot continued to press the gas-throttle to the floorboard. The truck bounced over rocks and ruts, nearly jerking out of his hands at times.

It seemed to take an age to get through the flame-curtain, though Nelson knew it was only seconds. Then suddenly clear sky greeted him. He stopped the truck well beyond the flames and looked himself and the machine over. There was no sign of burning, or anything akin to burning, anywhere. With a shout of triumph, he leaped back into the driver's seat, turned the truck, and roared back through the flames.

Sheriff Mack peered closely at him when he stepped out, on the other side. "Won through all right, I see. But you

look older, son! It aged you—"

"Never mind that!" snapped Nelson. "I want a dumping-truck now, the kind that tips its load at the back by a control in the driver's seat. I'll build a roadway of black ash through the flame-ring. A roadway free of flame. You're going to get all your trucks going then, in and out of the flame-ring, along that roadway. Men must be stationed on the other side, to dig and fill the trucks. It's going to be a big job, but we can win if we hurry—" He pulled the sheriff in the truck and shifted gears.

They were back in a few minutes, at the ultra-flame's edge, with a large but fast dumping truck. Nelson was the driver. In the back were ten men, grim-faced volunteers, carrying shovels. Nelson pushed Sheriff Mack out of the driver's cabin, stopping at the flame-wall.

"You're needed here, to direct operations later," said Nelson over the sheriff's protest. "No need for you to take chances—"

Then the large truck roared into the curtain of pseudo-fire. Sheriff Mack watched it disappear like a ship lost in a tempest of swirling light. He waited, stepping back a little as the flame-wall crept forward in its relentless way. Would the young college student's plan work? Or was there some unforeseen hitch to it? Sheriff Mack was troubled by the doubts that would plague any man facing that terrible, cryptic ultra-fire that had never been seen on earth before.

The truck flung itself out of the flames a half hour later with its load-carrier tipped. The last trickles of black powder were sliding from the rear end. The truck stopped and Nelson leaped out. He pointed back into the flame-curtain.

"See that dark lane through the atom-fire?" he said in a hoarse voice of tri-

umph. "I've laid down a thin bed of neutron-ash. In two or three more trips I'll have a flame-free lane wide enough for trucks to pass side by side!"

"GOOD work!" returned the sheriff. "I'll get several other dumping trucks on the job and make a roadway wide enough for ten trucks to pass—"

He started to turn but Nelson caught his arm. "No, sheriff. Let me do it alone!"

The officer stared. "But—"

"Alone, do you hear?" Nelson almost shouted. Without waiting for an answer, he leaped into the truck and it rumbled back into the strange, cold flames.

Sheriff Mack pursed his lips in perplexity. He knew young Nelson hadn't suddenly gone mad. Nor was he the type to try grabbing a larger share of glory. There was some deep, earnest reason for his queer request. But exactly what?

The sheriff broke from his thoughts and headed for his camp of operations at a lope. He must begin organizing the fleet of trucks for the big task ahead of them when the roadway was completed.

When Nelson reappeared from the flames the third time, a line of trucks waited to plunge down the roadway he had made. It was like a black gash through the towering fire-wall. At a nod from Nelson, Sheriff Mack waved an arm and the caravan of trucks rolled along the flame-free pathway to the supply of neutron-ash beyond.

"You look tired—better take a rest," the sheriff said, putting a hand on the young man's shoulder. He added, half dazedly, "And you look older again—"

"I'm all right," Nelson said gruffly. "Can't rest now—must keep making the roadway wider so the trucks won't be delayed." His own truck was moving before the last word was out.

Hour after hour flying vehicles shuttled back and forth. Men on the other side shoveled black dirt at a furious tempo. Men on the flame-threatened side piled it up in a continuous ridge. They cheered as they saw the ultra-flame quenched. Then they went to work with redoubled energy. They were seized by a fanaticism that comes to men at a time like that—in the face of an enemy that must be conquered.

Hour after hour.

Men worked as they had never worked before, through the night. The trucks began dumping their black loads all around the huge circumference of the flame-belt. Cars, new and old, were volunteered, and commandeered, to serve in place of trucks where needed.

Now and then flame seeped through a spot at which another truck-load of black dust would be dumped. Slowly the circle was being choked off . . . a menace to the world was being stifled that the world did not even realize existed.

Hour after hour.

Nelson drove his truck back and forth countless times, sleepless, driven by the same superhuman will that drove them all. They were working primarily to save their farms and families. Dan Nelson could only look at it in the larger sense—saving mankind.

Now and then, Sheriff Mack would meet him. They would eye one another as two men recognizing sterling qualities in each other. But the sheriff would always peer closely then, and say the same thing, in a sort of wondering moan:

"You look older, Nelson. Every time you come back you look older—and older—"

At noon the next day, they knew they had won.

"Well, it's over!" sighed Nelson, slumping down on the running-board

of his battered truck. "The atom-fire can't burn down into the ground, for its own neutron-ash chokes it out. It can't feed on air alone, for that fuel is too thin and will cool it below its ignition-point. The menace is over!"

But the sheriff was groaning. "You're an old man, Nelson! You look like an incredibly old man!"

Nelson's gaunt, wrinkled face drew up in a senile grin.

"Yes, I *am* an old man, because I went in and out of the flame-curtain many times, touched by the atom-fire. Old age is an effect of the cosmic-rays

—bathing our bodies all our lives and slowly disintegrating them internally, filling them with isotopic poisons. I passed through that process in a few hours, in the bath of disintegrating flame. I lived a lifetime in there!"

He went on softly. "I realized that from the start—but it was a small price to pay."

He turned to watch as the last flickers of mysterious atom-fire licked defeatedly against a bulwark of black powder. His old-man's face reflected quiet triumph.

THE END.

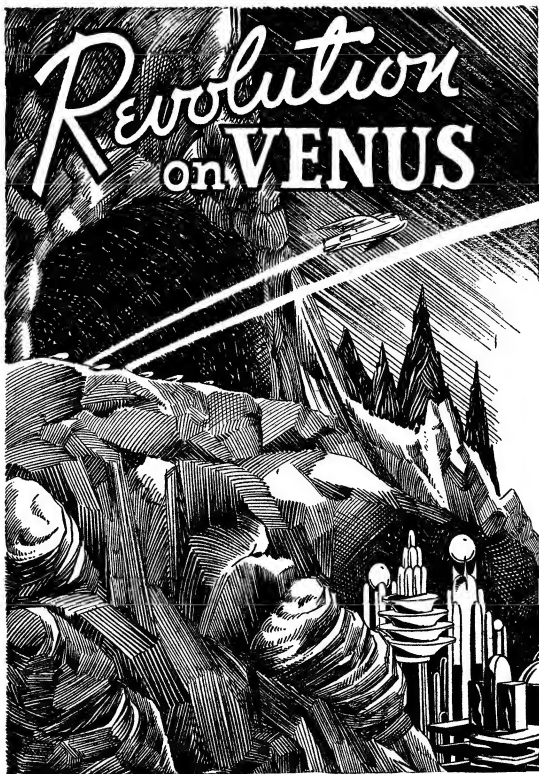
« TELEVISION PROGRESS »

WITH 1939, television finally seems about to take the first of a series of rapid strides toward actual country-wide communication service, and eventually take its place along with radio as a means of recreation. It is the general agreement of most experts that television will never be as popular as radio, as a means of home entertainment, due to the difficulty of observation, and the necessity of constant and close attention. Relaxing as we do now to radio programs, sprawled all over the parlor furniture, will be impossible. We'll have to sit up and keep our attention focused on a comparatively small area, which is tiring.

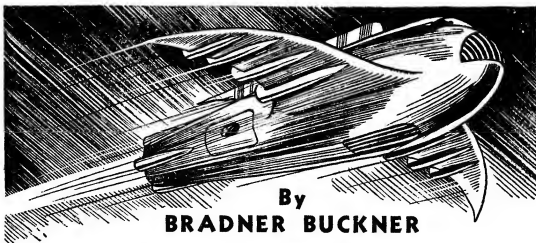
However, quite a few large cities today are sending out television broadcasts, or telecasts. New York, with its NBC television transmitter, is leading the parade. The latest television station is in the Helderberg Hills, about twelve miles outside of Schenectady, New York. More are being planned every day. Options on all tall buildings in large cities are rapidly being taken up, with NBC leading the parade. For instance, options on the tallest Chicago buildings are held at the present moment, with other companies waiting for final decision as to which building is to be used, so that they may obtain the others.

New tubes and other developments are becoming daily announcements, and progress is beginning to gather in a rolling wave of achievement. Nor will home receivers be any more expensive than an ordinary radio. Technical difficulties there have been ironed out, and production is merely a matter of getting the broadcast expenses reduced to the point where numerous stations become practical. Naturally, it is to be seen that there would be no sense to starting full speed production of receivers, which awaits only the go ahead signal, without first settling the problem of broadcast stations.

But the day isn't far off now. The country-wide television that science fiction authors have predicted in AMAZING STORIES seems certain to be an accomplished fact by 1945. Some experts even predict this in less time. It begins to look as though the prophetic writers had better begin looking for a new subject to forecast.



Like rushing monsters the Venusian ships screamed over the city of Hila Fonda



By
BRADNER BUCKNER

Racking pain, more terrible than he had ever experienced, engulfed Kent Stafford as Oak Harbold's fiendish metal band shrank about his head. But Stafford couldn't die . . . yet! He had to break this Dictator's power, even if all Venus rebelled!

CHAPTER I

Death in the Forest

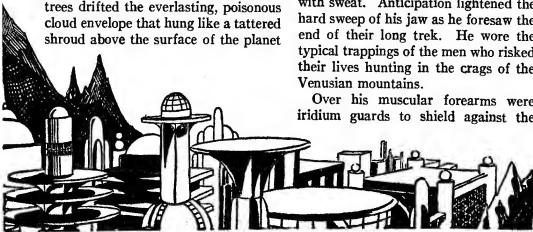
THE hot wind ripping down from the ridge was humid with the perpetual dampness of the high Venusian mountains. It brought flopping noises from the great leaves of the trees closing over the trail, carried the scream of a carnivore to the ears of the pair who swung leisurely up the steep, winding path.

High above the tops of the tallest trees drifted the everlasting, poisonous cloud envelope that hung like a tattered shroud above the surface of the planet

Venus. A dingy gray, its lower surface sometimes split for a moment to reveal the yellow layer of deadly gas that had claimed the lives of so many like these two who had fought their way through and above it short days before.

They were a rugged, wild pair in a hostile country. Kent Stafford swung along ahead of his elderly partner, his bare torso, burned brown as a penny by the rays of a sun magnified by the moisture of the atmosphere, gleaming with sweat. Anticipation lightened the hard sweep of his jaw as he foresaw the end of their long trek. He wore the typical trappings of the men who risked their lives hunting in the crags of the Venusian mountains.

Over his muscular forearms were iridium guards to shield against the



gouging of rocks. Tough breeches protected his legs, ending in metal-ribbed boots. Before him labored a long line of rugged little pack animals—strange animals, with the body of an Earthian antelope but scarcely bigger than a large dog. Clinging to their brown sides were heavy packs.

Now a sudden change of wind carried an odor of sulphur to their nostrils. Cap'n Hedricks, Kent's hardy old partner, uttered a glad oath.

"There it is!" he swore. "That sickening, nose-ticklin' smell that always makes you want to cuss—or cry with joy! Three hours and we'll be in Hila Fonda, hoistin' a long one to the mountains we can't live in . . . or without!" His blue eyes, as bright as the sun seen through the port of a space ship, glittered expectantly.

"Three days, and we'll be on our way back to Earth with the biggest load of vuldar feathers taken out of the interior yet!" Kent exclaimed. His eyes were on the bulging packs. Within them were the prized vuldar feathers for which wealthy women on Earth paid unbelievable prices.*

Kent's muscle-ribbed chest deepened to a sigh of satisfaction . . . and froze that way, as a hoarse scream drifted down from the ridge. His glance flashed along the rocky, tree-cloaked hill top. A stir of movement caught his eye. "That's no hungry *ardak* hunting," he shot at Hedricks. "Let's have a look!"

A barked command brought the pack train to a stop. Stafford's broad form catapulted forward, Cap'n at his heels. Death had been in that scream . . .

These plumes from the bodies of the rapacious Venusian bird which resemble the condor, are the most beautiful things on a planet full of the weirdly beautiful. The flame with every color of the rainbow, glisten in the dim sunlight like burnished gold and silver. Venusians look upon them with respect and reverence; Earthmen admire them and seek them for the thousand dollars the plumage of a single bird brings.—Author.

and for intruders, danger, perhaps. Strange and sudden things happened in the Beryllium range. But there was no hesitation in the swift response of the hunters; if fear was an element in their natures, they would not have survived their first trip into the interior years ago.

It was a full life the proud clan of vuldar traders led, one that saw men skyrocketing to wealth in a single trip, or finding unmarked graves in the blue granite scarps back of Hila Fonda. For if any one being could be said to own the wild frontier of the planet, it was Death.

Death walked with them when they forced their way through pest-laden jungles, bridging streams it would have been fatal to touch because of their chemical properties. Death was with them as they started the precipitous climb from the lowlands to the twenty-five thousand foot towers of virgin rock. And there was not a hunter whose eyes were not hard and bitter as he covered his body with foul-smelling grease and climbed into the yellow layer of death-clouds.

There was fluorine in those clouds . . . fluorine, the greenish-yellow gas which cuts glass and lead—anything but the wax base of their protective grease. Their glass oxygen helmets had to be covered with a transparent cover of the stuff to protect them. And if they made it to the thinner clouds above, where the sun's rays were unmerciful, the battle was only beginning.

Here they relied from day to day on high-power pistols capable of shooting a mile, for not only were they hunting the voracious vuldars—the vuldars were hunting them! They grew to dread that sudden hiss of wind through mighty wings, the black shadows that foretold the swooping dive of a flock of killers.

Then they would shuffle their feet for

firm holds in the rubble, jack loads into their guns—and pray. Random shots were useless. The heads of the birds must be picked off neatly to protect the feathers. And if a hunter missed or his gun jammed—Well, there was less competition for the others after that.

NOW a second scream brought Kent hurrying from the trail into the spongy growth matting the floor of a shadowy clearing. In a flash he was bending over a man who lay on the ground digging into the carpet with crooked fingers.

Hedricks had come up blowing. "A Venusian!" he broke out. "And the big feller's about done for, ain't he?" Concern traced fine lines about his eyes.

Stafford got the giant onto his back and stared into the brown face. He was about seven feet tall, even larger than the average native. Across his forehead was a tight metal band. Words came in wheezing gasps from his lips: "This is—the way—Harbold pays!"

The eyes of the traders locked together. "Harbold!" snarled Kent. "What's that renegade space pirate puttin' his evil mind to now?" He shook the man gently. "What is it? What's wrong with you, boy?"

Green eyes showed behind pain-tightened lids for a moment. Her fingers brushed the metal band. Abruptly, he screamed and bit his lips against the agony. Then his chest was heaving terribly, his throat convulsing with an ominous rattle.

"Lord, it's that band!" Kent gasped. "It's metal, but the thing's shrinking!"

Gingerly he touched the metal, found it rigid despite the fact that it was visibly growing smaller. Hedrick's head collided with his as both bent over the dying man. With every labored gasp the man grew weaker. Stafford tried to get his knife beneath the circlet.

He groaned with despair. Then, hastily, his blade commenced sawing on the gleaming ribbon. He was still frantically chipping the edge off his knife when he realized the form beneath him was motionless. He rocked back on his heels.

"Dead," he murmured. Absently he thrust the knife back in its sheath. "Medieval torture, it looks like. Cap'n, who in hell would . . . ?" His gaze followed the older man's, back to the still figure as he read interest in it.

Hedrick's stubby forefinger traced the inscription on the murderous band. In three languages—Martian, Venusian, and English—the same words were repeated: "Thus with all traitors!"

They looked at each other in silence. And then, because both were mystified and wanted to think, they retained that silence. Stolidly they buried the native and went back to the pack train.

No darker than Kent Stafford's thoughts were the pools of shadow they trudged through as they fought to the top of the last rise. He was recalling the unscrupulous trader and renegade whose name had cursed the Venusian last moments—Oak Harbold. He and Harbold were enemies of long, deeply rooted standing.

Kent's nature was revolted by the double-dealing ways of the big Earthman. In a world where man-made laws had not yet arrived, he took every advantage of the situation. The ingenuous natives were simple enough to take his pauper's wages to do the vulgar hunting he steered clear of. He paid them barely enough to live on; yet he received thousands of dollars monthly from the sale of the plumes they fought and died for. Men like Hedrick and Stafford watched his rise with contempt.

They topped the ridge, anxious for their first glimpse of Hila Fonda in six

months. Even as they surmounted the rocks and stood looking down on the metropolis of three worlds, a rocket ship flamed from the landing field at its edge and arced into space. It was startling, and, somehow, ominous.

Kent's blood grew warmer as his glance dwelt on the city. Even from here the two sections of it were plain; The square, purplish buildings that formed the Venusian quarter, a close-crowded heap of crooked structures; flanking it, the Martian-Earthian quarter, a square of somewhat taller, white buildings.

Hila Fonda was built partly on the slope of the foothills, and beyond it, stretching a way into measureless miles of green, lay the Sea of Tarth. The long white combers battered ceaselessly at the yellow ribbon of sand separating city and ocean. Northeast was the smelter which had given rise to the odor of sulphur.

The metropolis was a grateful sight to their eyes: yet Kent found himself inwardly disturbed. "Back again," he murmured darkly. "Back to civilization—and what?"

CHAPTER II

The Devil's Playground

AS they made their way through the teeming streets an hour later, they were conscious of the curious glances that followed them. Unhurriedly they made their way to their private hangar at the landing field on the shore a half mile farther.

Men of every Earthly and Martian race thronged the narrow, dingy streets. Adventurers rubbed shoulders with criminals exiled from Earth or Mars. Marooned space tramps hung about soloons in search of free drinks. The high laughter of women came at intervals from shadowy doorways.

Everywhere there was dirt and squalor. The vices of three worlds made Hila Fonda a pest-hole of iniquity. Half the population worked in the vast Clayton iridium mines northeast of the city; a few hardy individuals went out on sporadic hunting expeditions. The rest of the populace who worked at all sold pleasure of some sort or another. In Hila Fonda, joy was king, and sin was his subaltern.

Kent's pace speeded up as he sighted their hangar at the end of the street, all thoughts but anticipation of a quick trip back to earth crowded from his mind.

Abruptly, he was spinning about as a voice rapped: "Halt!"

His startled gaze swept six burly figures in green and gold uniforms. A tight grin played over his lips. "What's the idea, Woods?" he drawled as the lanky, hard-faced leader stalked up. "Hallowe'en?"

The ex-trader's features remained frozen. But under his long, broken nose the small mouth creased tighter. "What's in the packs?" he shot back.

Stafford's eyes ran up and down the other's form. Only by the slight stiffening of his chest muscles was his resentment evident. "Rocks and boards," he gave back at last. "Me an' the Cap'n are building us a house."

Danger flamed in the amber eyes. But before he could speak, Hedricks had cut in.

"Just what you'd suppose," he snapped. "Vuldar plumes. Now get the hell—"

"Permits?" The other five men closed in a little tighter.

"Permits—?" Kent looked at Cap'n in sudden suspicion. "Since when did law and order come to Hila Fonda in the way of hunting licenses? I think we've been away too long, Cap'n."

"Healthier for you if you'd stayed

away longer," Woods pointed out. "You two are under arrest for trappin' without a license! Take care of the packs, Bragg."

A stiff shock put Kent back on his heels. Mystery was in the air, and the scent of it was in his nostrils. He put out a hand to stay the Cap'n as the old trader lurched forward angrily.

"Arrest away," he breathed. "This promises to be interesting. And I'll miss my guess if Oak Harbold ain't in the deal somewhere!"

HARBOLD *was* in the deal.

He sat smiling thinly behind a metal desk in his office. Like the rest of the ancient buildings that housed his ships and wares, the office was dirty and poorly ventilated. Although Kent knew the interplanetary shipper was worth around a million dollars, there was an air of shoddiness and disrepute about the place. And the most disreputable thing in the office was Harbold, himself.

His coarse, slightly puffy features were a unique blending of fox-like craft and the brutality of a gorilla. A network of broken veins ruddied his cheeks, and his thick lips smirked loosely. His mouth was too quick to smile, his eyes too slow. Greenish flecks in the black eyes gave them a piercing quality.

"So the honest huntin' men thought they could get by without a license," he greeted them. "Well, you've bought yourself some trouble. Hila Fonda's grown plenty unfriendly to you wholesale vuldar butchers."

Stafford hooked his thumbs over his belt. "Now say it so we can understand it," he gave back.

A new, nasal voice intruded, drawing the traders' eyes. They met the ferret features of wizened Hack Bacon, another who had found it easier to pay

native help to do his work. "He means your kind has damn' near ruined the vuldar trade," he challenged. "Slaughterin' the birds by the hundred till they're scarce as gold nuggets." Bacon's skinny frame was clothed in the most expensive hunter's outfit.

Cap'n Hedricks snarled a Venusian oath. "You got the nerve of a brass monkey, Bacon," he choked. "If you had the guts to get out an' soil those pretty pants and riggin's, you know the vuldars are so thick you can't breathe without getting a lungful of feathers! Butchers—!" His words trailed off into incoherent curses.

Hatred flashed into Harbold's black eyes. "We've had other reports from our hunters," he flared. "Vuldars got so scarce a few months back that the honest men like Roddok and Bacon and Woods, here, asked me to do something about it."

Roddok, an elongated, gray-eyed Martian, smiled blandly, "You began to worry us, takin' our livelihood like that. Hell, we've got to live, you know!"

"Why?" Kent drawled icily.

Harbold ignored the thick sarcasm in his voice. "Even the city was so bad you could smell it back on earth. Something had to be done to straighten things out here, as well as curb you unscrupulous hunters."

He leaned back in the chair, spread his hairy hands on the desk. "It's a different place you've come back to, Stafford. I've got a hundred armed police keepin' tabs on things. We've got law in Hila Fonda—and I'm it!"

Somehow Kent Stafford sensed the closing jaws of a trap. The smug grins on the faces of the uniformed renegades who were called police, the complacent look of power on Harbold's heavy features—He broke off the spell. "I've seen a little of your law," he responded

sourly. "More drunks in the streets than ever, more playgirls per block—and God only knows how many new vices brought in from home or Mars. You're doin' a swell job. The only thing I'm wondering about is this: Why did they pick the rottenest crook in three worlds to straighten out this city?"

Anger rushed through Harbold's visage, bringing dangerous highlights to his eyes. His hand jerked at a drawer, took out a couple of metal rings, one bronze, one silver. Quickly he fitted one inside the other, his eyes on Stafford as he did so. And suddenly Kent realized they were shrinking, as though their union had produced some strange chemical action.

In the swift looks of shock that struck his prisoners, the renegade leader read their recognition of the deadly weapon. He laughed a short, harsh note. "For a man in your spot, you wear an awful big mouth," he taunted. "I mighta let you off with just attaching your packs, but I ain't sure it's safe to have your type running around loose. I'll hold Hedrick for trial. But you've already sentenced yourself, Stafford." Abruptly he was coming around the desk. His face came close to Kent's. Into a taut silence, his words dropped slowly: "Got anything to say—*before I give you the same treatment that Venusian got?*"

CHAPTER III

Ann Clayton

THE fire in Kent's breast seemed to die out, then it was flaring up. He drew back a fist to crash into Harbold's face, and in the same instant strong hands seized him. Disregarding the officers, he snarled.

"Plenty! This is no attempt at law and order, Harbold—it's out and out piracy. The natives must be simpler

than I thought they were, if they let you appoint yourself judge, jury, and executioner. You've got Hila Fonda on the fire, and you won't be satisfied till you've got every drop of juice out of it. Permits! Traitors! Your permits are nothing but a way of killing free trade, and you brand anyone a traitor who opposes you. Well, here's one pair that doesn't lie down and lick your boots!"

With the angry crescendo of his voice, he snapped into action. His arms flew up and around, tearing loose the grasps of Bacon and Woods. Cap'n was yelling fierce defiance as he tore into another renegade. Like two maddened wolves, Kent and his old partner ripped into the four.

Blood was on Kent's hands, on his face, in his brain. He smashed, jabbed, clubbed, shouted. Momentarily he awaited the rending impact if incendiary bullets which would rip into his body and burn until a grateful death took him. But they did not come; Harbold was saving him for a worse end, he supposed.

He saw the wiry, bean-pole frame of Woods loom up, and pulled back a fist to throw a vicious roundhouse at him. Some one caught that fist, twisted it behind him until a cry of pain tore from his lips. In that same instant he saw Cap'n stumble forward with blood streaming from his head, to crash into the desk and roll to the floor. Then blinding lights sheeted through his brain. Strength flowed from his body like meal from a split sack.

He spun dizzily into darkness, seeing one thing: the distorted countenance of Oak Harbold dancing before him. . . .

PAIN swam interminably through Kent's mind, and it was pain that dragged him back to reality. He had

known headaches before, but nothing had approached the engulfing, blinding anguish that convulsed his brain now.

His heavy lids dragged open. The dim Venusian sunlight burned his eyeballs. Suddenly he raised his hand to his head. His heart leaped as he felt a cold band of metal already sunken into his forehead!

Then Woods' face materialized. In the moment before the swart countenance broke into savage amusement, Kent saw where he was. He was at the mouth of the crooked street of filth and sordidness that gave into the Venusian quarter. At each side was a guard who had been dragging him along.

"You been so damned loud about giving the natives fair wages," Woods smirked, "maybe they'll repay the debt now! Don't ask help of nobody else. It's against the law to try to help anybody wearing the collar. Get goin'!"

Rude hands threw him through the gate. He reeled into a wall and crashed to the gray dust of the street. Somehow he fought his way up and went stumbling along the street. With every step his agony mounted, but he tore at the band with futile fingers and reeled ahead. It would be death to remain; perhaps someone—

There was a raggedness in Kent's heart that rivaled the bone-crushing torture of his body. It came to him that a whole world of helpless natives would soon be under the ruthless tyranny of Harbold. He found it in him to realize how small his own death would seem against the hundreds who would die before the renegade got the complete control he was after.

A new spasm racked him. He fell against the front of a building and shot a desperate glance down the street. The narrow, crooked passage climbed steeply away from him. Five-story buildings of the purple plaster which

predominated seemed almost to touch overhead. The uneven street was deserted, except for gaunt creatures like wolfhounds—Venusian dogs.

In the next moment Kent was running ahead. Three tall, brown-skinned figures had caught his eye in the shadows beneath an overhead foot-bridge. He fell to the street before them, climbed to his feet and held his head. "Head!" he muttered. "God, it's caving in. . . . Help—"

A brown hand lashed out to smash against his cheek. "Damned Earthman!" the Venusian muttered. "Does your murdering breed help us?"

Before Stafford could recover from his shock, the glint of a blade arrested his attention. One of the others slid close. "Well give him help—" he snarled. "Earthmen help!"

THERE was strength enough in Stafford's arm to catch the plunging hand and wrest the blade loose. But the effort cost him a tremendous amount of energy. Bewildered, angry, sick, he staggered away. A shout beat up behind his running figure.

In a single instant, the quarter that had been a place of silence and mystery erupted into life. From every door and furtive alley moved tall, threatening figures. Kent stopped. A score of Venusians swam before his gaze. He creased his bloodless lips tighter. What was wrong here? The friendly natives were openly hostile, bent on killing him, perhaps! Yet, only a few months before, they had been happy and friendly as children.

Now he ducked swiftly into an alley and careened down it. It was no wider than five or six feet, and so dark he stumbled about in the slimy gutter that flowed through it. The mob had become in his mind a huge noise, that clamored about his pounding head with

fiendish persistence. Abruptly he sprang into the next street.

But the lane was already filling with hard-faced Venusians who had heard the cries. "Earthman! Damned Earthman!"

The epithet burst from a hundred throats to smash at his brain. The mob bore down on him relentlessly. He fought back the narcotic effect of his pain. Even in perfect condition he would have been in a difficult spot with such odds against him. But now—he was sick all through . . . he was dying.

Suddenly Kent realized he was tired of fighting. Senseless to resist the death that would be more merciful than the torture of the collar. He found a doorway and backed into it. His bitter laughter mocked the mob.

"Come on!" he raged. "But I'll take the first ten with me!" Muscles ran rippling across his chest as he set himself, fists on hips. His face burned with a fierceness that slowed them down.

Then they were rushing on with renewed speed as the alley spewed hoarsely shouting Venusians. The giants shimmered in his gaze; the end was closer than he had known. His flashing fists found two unprotected jaws and brought their owners down. They were closing in fast, suffocating him. Fists pounded him until he was weak and sick.

Then, like a bell rung suddenly, a woman's voice sheared the crowd sounds. The effect was magical: the Venusians fell back hurriedly to form a path for her. And now the clouds of death were settling rapidly about Stafford. On his knees, he was able to glimpse only a white cameo of a face framed in wavy brown hair, a small figure in green and white.

Darkness caught him up in invisible arms before he could see more.

CHAPTER IV

City of Death

FOR the second time in a space of hours he struggled back to consciousness. But this time the return was accompanied by a sense of peace and restfulness. He lay for a long time without desiring to open his eyes. His head didn't ache any longer. His limbs were relaxed. A low voice finally brought his lids up to scan the surroundings.

The ceiling over him was low, rippled with shadows thrown by guttering lamps. He lay in one of the bunks that lined three walls of the room. One swift-traveling glance showed him four men in chairs around a table. The clacking of ivory told him a game of Venusian backgammon was going on. Beyond them, in a bunk across from Kent, sprawled a relaxed figure regarding him lazily through slitted lids.

Again the low voice came: "A quick recovery, Mr. Stafford."

With the amused tones, Kent was sitting up hurriedly and swinging his legs over the edge of the bunk. His gaze came into focus on the same face he had seen as he went down in the street. Even in these strange circumstances, he found it in him to admire the beauty of the girl who sat swinging her legs carelessly as she sat on a bunk beside him.

Only on Earth could such a complexion as hers be found, and only in America did girls have such warm eyes and lips. Lustrous brown hair came to her shoulders, and friendly blue eyes made his blood pound faster. Her small figure was dressed in a short-sleeved green jacket and the short skirt worn by Venusian women.

Staring steadily at her, Stafford found recollection stirring within him.

"I—I know you, don't I?" he put thoughtfully.

"You should. I was in my father's office the day you refused the small fortune he offered you to head his transport fleet!"

"Ann Clayton!" Kent found his feet and regarded her in surprise. Marshall Clayton owned the vast iridium mines northeast of the city. Over a year ago he had tried to sell Stafford on the idea of taking a thousand dollar a month salary to supervise the shipping of valuable loads of iridium back to Earth and Mars. Constant raids on his ships had depleted his profits until he decided a fighter was more needed in his crew of officers than mere navigators. But Kent had decided in favor of the more rigorous life he had known for ten years.

The girl laughed softly. "How is your head now?" she asked.

"My head—!" Kent's hand went up to discover nothing remained of the death collar but a furrow where it had lain! "You—you got it off?"

"With Roddok's help."

The words jerked the hunter's gaze to the tall, slender figure in green, lazily in the bunk across the room. Anger flashed into his mind, then fell away as he considered her words. "But you helped put the thing on—!" he muttered. "Now you take it off. What's the idea?"

The Martian laughed: "I'm on two payrolls," he smiled. "But you got yourself lost in the native quarter so fast I was almost too late in finding you."

"Roddok's my undercover man," Ann Clayton explained. "When he brought word that you'd been left in the Venusian quarter to die or be killed, I hurried out to get you. I found you just in time. The natives will kill any foreigner they catch alone, unless I, or

Agara, my mine superintendent, is with him.

"You could have taken the band off yourself, if you'd known how. The two metals unscrew, and immediately stop contracting. The bronze is cut off after that."

The lines of puzzlement pinched deeper about his eyes. He let himself sag onto the bunk again. "My head's as dizzy as though the collar were still on it," he admitted. "Six months ago Hila Fonda was a happy, sinful bit of hell that was about as furtive as a stray pup. Now I hear talk about undercover men, traitors, hostile natives . . . what's the answer?"

KENT was conscious of their gazes on him. The rattle of ivory had chopped off. Agara, the Venusian who had charge of all the Clayton mines, pushed his chips away angrily. His flat, brown features twisted. There was something almost threatening in the way he fixed his gaze on the other.

"You're in a city where men wear chains, Kent," he said harshly. "Your people keep out of trouble by walking light and not having ideas. We Venusians have come to hate the whites because Oak Harbold is white. And who can blame us? Harbold has levied taxes on half what my men make working in the mines. So—they are starving. He refuses to give Miss Clayton clearance papers on her ships so she can't sell the metal, and the workers go unpaid."

Stafford's blood grew warmer. "But Clayton! Why does he stand for Harbold's bullying?"

Ann Clayton's eyes dropped. "My father is dead. A mine cave-in—so they said."

Kent found no words to express his shock and sorrow. Marshal Clayton had been his kind of man . . . a fight-

ing man. Because of that, he was dead. "Your father was the sort Hila Fonda needs," his voice came quietly. "But you, Ann—you can't stay here alone. You aren't safe."

Proudly her eyes flashed over the four giant natives and Roddok. "I have friends," she pointed out. "Every Venusian supports me and my friends. And as long as I have strength to fight, I'll stay here and battle Oak Harbold!"

"All of Marsh Clayton didn't die," Kent murmured. Suddenly, with icy coldness, he recalled the Cap'n.

"I've got to get back there," he ground out. "Cap'n may be dead already. Harbold had some reason for keeping him."

"He did—which is why he is safe." The Martian was on his feet, lighting a cigarette brought across millions of miles from Earth. "I convinced Harbold you might have a secret cache of vuldar feathers somewhere, and he kept Hedrick to sweat the information out of him. But don't excite yourself—he is merely going to starve him until he gives in."

Stafford held his gaze steadily on the thin, regular features. The thought came into his mind that beneath the unobtrusive exterior was a loyal spirit.

"Tonight you must rest," Roddok continued. "By tomorrow night I'll have the lay of the building he's taken him to. Then we can strike."

"Strike!" Kent smashed a knotted fist into his palm. "We'll strike and keep on striking until Harbold's octopus hold is broken. Or else we'll go down knowing it was a great old fight while it lasted!"

CHAPTER V

Rescue—And Capture

RENEWED strength came to Kent with the birth of the new day.

Hour by hour he paced about the small room, impatiently eager to be on the trail back. It was agony to confine himself to four walls, with so much to be done outside. Then, toward evening, came quick footsteps in the hall.

Ann admitted Roddok. "It's set," he announced grimly. "Come here."

He led the way to the window, let up the shade on the darkening city. Ann pressed close to Kent, following with him the Martian's pointing finger. They made out the slender form of a tall building across the city. Near the top, lights gleamed in windows.

Roddok said: "Your friend is there. He's expecting us any time."

"But how do we get in?" Kent wanted to know. "That's ten stories up. We aren't going by elevator, are we?"

The Martian's purple-gray eyes appraised his muscular limbs. "Can you climb?"

"I could scale an iceberg, if the Cap'n were at the top," Stafford assured him.

"Then you'll climb," Roddok nodded. He pressed a gun into his hand. "You'll need this. Let's go."

But a restraining hand clutched Kent's wrist as he swung toward the door. The look in Ann's eyes were not the fighting spirit of last night. It was something more feminine, something softer. "You'll watch out for the night guards?" she whispered.

Kent's jaw went hard. "I'll watch for them," he promised somberly, showing his gun under his belt. Then his lips formed a quizzical smile. "Why, Ann—if a man didn't know better, he'd think you were downright worried about me!"

Her reply, not entirely satisfactory, was still in his ears as they left: "Perhaps I am. I need men like you—lots of them!"

THE ancient warehouse in which Hedrick was confined loomed high and dark from a cluster of smaller buildings. A small sprinkling of lighted windows shone near the top.

Kent pressed back with Roddok into the gloom of a doorway across from it. The nearby crashing of the sea on the yellow sand was in his ears, and the pulsing of his own heart. As far as he could see in either direction, the street was deserted.

The Martian's words riveted his attention on the warehouse, then. "It's built like a U," he was whispering, "with Hedrick's room at the end of one leg. Inside the U, at the very back, the bricks are old and looser than anywhere else. It may be you can get finger- and foot-holds. Climb to the tenth story and get in a window. Come back the same way."

Kent nodded slowly and drew a deep breath. With Roddok's "Good luck!" in his ears, he started across the street. Scarcely had he reached the middle of it when voices broke the silence and lights swung around the nearby corner. Kent stood frozen with horror. Guards! If they had seen him—!

Three quick strides carried him to the warehouse shadows. Then he was forcing back against the wall, waiting . . .

In a moment the voices resolved themselves into a drunken discord of music. "Drunks!" breathed Stafford, and his shoulders sagged with relief. The quartet wore the uniforms of rocket men on one of the great sky-liners. Oblivious to the four sharp eyes and two gun-muzzles that followed them, they careened on, singing raucously of the "Black-Eyed Sky-Maids of Space."

Kent twirled, trod hastily down the space between two small buildings. Sooner than he expected, he was staring into the black patio within the U of the

warehouse. His keen gaze raked it. Cautiously he bore across the intervening distance and made for the section Roddok had mentioned. Then he was jerking about with a startled gasp on his lips.

The guard had loomed up so unexpectedly that Stafford was caught flat-footed. "Who is it?" growled the watchman.

There was a moment in which Kent cursed himself for trusting Roddok. But with the beam of light from the man's torch, he forgot everything but the need for speed and agility.

"*Stafford!*" The word was wrung from the man's lips in a choked gasp. And Kent recognized, with a fierce thrill, the nasal tones of Woods.

"Yeah—back from the dead!" Kent clipped, and sprang for him. His body was rigid with the knowledge that he must shoot first, and that that shot must not be heard. The ugly bore of his weapon sank deep into the renegade's slack belly. Kent pulled the trigger.

There was a sharp pop, a groan that Kent's hand stopped. The muffling of the gun had been successful, and Stafford knew, as seconds hammered through him, that his split second advantage had prevented Woods from firing. He watched the dead man sag down. With a cold shock he saw how close he had been to death; the guard's gun was already cocked. Only his swiftness had saved him.

He made his way to the wall and groped until he discovered the loose section of bricks. He knew instantly why these bricks were loose and the others firm; a drain on the roof spilled rain water over at this point, and the erosion of years had weakened the mortar. But as he ran skilled fingers over the softened material, his mouth tightened.

It was one step short of suicide to

ascend by them. Crumbling plaster and brick came out by the handful as he dug. But the thought of Cap'n starving up there routed caution from his mind. He jammed the gun back under his belt and started up.

THE stories fell away from him in a timeless interval of shaling plaster, probing, bleeding fingers, and cramping muscles. Kent fought his way higher. He had no fear of the steep climb, but the crumbling bricks struck fear into him.

In some manner he gained the top floor, rigid with alarm. A window beckoned invitingly. Weakened fingers slipped over the sill. And now his nerves exploded as the room he was staring into blazed with sudden light. Black eyes, behind the barrel of an incendiary pistol, regarded him frigidly.

"A long climb, fella," the man rasped. "Too bad it had to end this way!"

Without the usual warning of tensed features, the man blazed three shots at him. The agony of seared flesh was in Kent. His eyes stung from the proximity of the muzzle-blast. Hatred nerved him to leap up as he realized he was somehow uninjured. Steel fingers closed like a trap about the Harbold man's wrist.

The sinews of Kent's bronzed back snapped and strained as he gave a quick tug on the captured arm. From the man's lips broke a hoarse scream of terror. Twice more he fired as he plunged through the window into space.

Kent was sickened by the babbling shrieks that came up to him, and shuddered at the smacking sound that terminated them. But he climbed in knowing that if he had any chance now, it lay in speed.

He sprang into the hall, tore down it to Hedrick's room. There was no guard

before the door under which he could make out pale light. Evidently the man he had just met had left his post to intercept him. A single shot shattered the lock. In the next moment the door was swinging wide. . . .

Cap'n Hedrick's squat, dynamic form came out unhurriedly. He said only, "What's kept you, son?" But in the strength of his grasp was gratitude and relief.

Kent grinned. "Had to leave my card with a couple of doormen. Well, shall we stay here and wait for trouble, or go look it up?"

"Let's look it up. And then eat! I've ate up all the flooring, and was just startin' on the door knob when you got here."

Kent started a smile, then the humor vanished under the pressure of the situation. "We've got the chance of a canary with a vuldar of coming out alive, but I'm ready if you are. We'll go the front way. The courtyard will be clogged with hell-raisers by now."

The way down was a lot easier than the way up, but as they prepared to go out the front door into the now swarming street, both men were grim. Harbold's strident tones knifed the babble. Everywhere were the green uniforms of guards. Of Roddok there was no sign whatever. He had melted with the first shot, Kent decided. And again a slow suspicion revolved in his mind.

They slid into the street. Kent played his act coolly, mingling with the clamoring Martians and Earthmen and adding his voice to the others. But slowly, purposefully, he inched through them. Suddenly he hissed over his shoulder, "Here we go!"

His broad shoulders hunched as he made for the yawning mouth of an alley. Cap'n's steps echoed his own running footfalls. They gained the alley and sprang down it. But not until

the sounds of the crowd died out did their pace slacken a fraction.

Black storm clouds had been gathering beneath the perpetual envelope of vapor during the night, and now, as they gained the native quarter, the first huge, pelting drops splattered in the dust of the streets. Soon the night sky was sluicing angry torrents down upon the city, scouring the filthy streets clean.

But Kent Stafford was thinking, as they swung into their hideout, that no amount of rain could wash out the blood that had been spilled, and would be spilled before this ghastly business was over.

ALL the rest of that night the three of them—Ann, Kent, and Hendricks—watched the constant searching parties rush through the crooked streets. Behind them sounded the rattling of backgammon pieces as the impassive Venusian guards played on, disregarding the turmoil without.

Constantly the thought recurred to Kent that Roddok was back of the miscarriage of his plans. Woods and the other men had been on the alert from the opening play, as though they had expected him. Yet they thought he was dead. Only the blonde Martian knew otherwise.

The hours crept on, and yet Roddok did not come. The black sky thinned to a dirty gray, as another grim dawn broke over Hila Fonda. It was when the first sickly half-light had filtered through the slanting streaks of rain that Ann Clayton turned from the window with a little gasp.

"Kent!" she called tensely. He looked up from the chair. "There's a man down there in the street," her voice went on tightly. "I don't know, but I think he's—dead."

Stafford shoved his bulk wearily out

of the chair. "There'll be a lot of 'em dead after this night. Harbold'll drag all the rotten aces out of his sleeve, now. I'll go look."

He was not gone long, but when he returned from dragging the limp figure into a doorway out of the rain, his face was white. "It was Roddok," he said strangely. "He's—come back. God forgive me the thoughts I had." He passed his hand over his eyes as though suddenly tired. "I found this on him. Read it."

Hendricks took the note and scanned it. He had aged when he glanced up once more. In Harbold's sprawling characters he had read: "Stafford: You got till night to come back alone and unarmed. If you aren't here then, I'll



With a swift motion Stafford plunged the man into space and a scream of terror drifted up from the canyons between the buildings of Hila Fonda

blow the whole damned Venusian quarter to hell. I can do it. Don't make me show you how!"

CHAPTER VI

The Last Chance

FOR a long time Kent stood at the window looking into the wet street. He was sick of it all, sick with knowledge that only his own life could save those of thousands of innocent natives. That Harbold could dynamite the city, he had no doubt whatever. Hila Fonda was an ancient city, of underground sewers and huge water-mains . . . ideal places to plant charges of deadly *argonite*, a Martian product a hundred times as powerful as trinitrotoluol, Earth's best.

Desperately he fought for another solution, when all the time he knew it was the only way. Then the sound of soft sobbing drove the gloom from his mind. Ann Clayton was a pathetic little huddle on one of the bunks, her soft brown hair hiding the hands that covered her face. Quietly Kent crossed to her, and sat beside her.

Completely unconscious of the strangeness of it, he let one brown hand steal about her waist and draw the trembling warmth of her against him. And just as simply, just as naturally, her own arms went about his shoulders, and she buried her face in the hollow of his neck.

"We've fought so long," she sobbed. "So many fine, brave men like Roddok have gone, and I kept thinking we would surely win out sometime. Last night I thought things were turning our way. And now . . . this!"

There were no words in Stafford to cheer her. The last shreds of his hope lay out there in the rain, as dead as the Martian.

"There was a million dollars worth

of iridium waiting to go when Dad died," she went on tonelessly. "It's there yet. I suppose it'll stay there, until Harbold finds an excuse to take it." The slim shoulders shook. "Oh, Kent, Kent—what can I do alone, when men like you and Hedrick can't stop him?"

Stafford gave no sign that he had heard, but a new vigor stirred in him. He got up, stood poised in thought. Something in her words, something in the ceaseless rattle of rain on the windows, built anew the blaze of courage. Thoughts came tumbling into place in his mind. Abruptly he swung back to the girl.

"We're overlooking a good bet," he told her, and his glance included the others. "Hearing that rain gave me an idea. Where is the metal stored?"

"It's in the mines, in a locked tunnel," she replied. "Oh, I know what you're thinking, but it's no use. All my transport ships are guarded by Harbold, so we can't get the iridium off the planet anyway."

"But maybe they aren't guarded!" Kent cut in. "Harbold will know these Venusians won't stay in the city and take a chance on being blown to hell. He'll have all his men watching the gates to keep them in. For the time being he may forget the ships. And in this blinding rain we can easily sneak a hundred men over the north wall."

Ann's face brightened with anticipation of the plan. "You mean we'll load all the ships and leave before he knows what's happened! And—and then we can bring back a few battalions of interplanetary patrolmen and stop him for good!"

But Kent's eyes were suddenly avoiding her eager gaze. He shoved his hands in his pockets and walked slowly past the intent Venusians.

Ann followed him quickly. "Well, isn't that it?" she pressed.

"Just about," he admitted. "Only I'm not going with you when you leave."

"You—you *what?*" the old hunter exploded. He gained his feet with a crash of metal-soled boots.

"I'm staying here," Kent repeated. "My leaving would be a death warrant for ten thousand Venusians. If I don't come out tonight, it will mean the greatest tragedy Venus has ever known. An Earthman brought this on the innocent natives, and it's right that an Earthman should stop it. I'm going back there alone."

The face of the giant Agara glowed with admiration. "Ten thousand opinions will be changed tonight," he murmured. "Even a brave man might shun what you say you will do. Your courage will reflect on your people, in the eyes of Venusians."

"But, Kent — you can't!" Ann pleaded. "There must be another way."

Stafford shook his head. "I've thought of every way. There's only one, for me to go back alone—but not unarmed," he added grimly.

"Nor you ain't going alone, either!" Cap'n vowed. "The pair of us are good for any hundred Harbolds from here to the Milky Way!"

"We'll see about that," Kent smiled. "But now we've got work ahead. Agara, can you round up pilots for every ship, and men to load them?"

"In an hour the best pilots and swamper in Hila Fonda will be waiting for you at the mines," the Venusian assured him. Without further orders, he left with his men.

At his departure, a brooding silence filled the room. With forced optimism, Kent brought a calloused hand down across his partner's back. "Well, I've got one more good day's work in me, anyhow," he concluded. "And I'm

spoiling to be at it. But rain and fog and mud—what a helluva setting for a man to do his best work!"

THEY found the rain and fog a blessing once they had scaled the high old wall in the hilly northeast section of the quarter. The clouds seemed to have sunken with their own weight until they rested on the ground in a murky, wet blanket. Through it the three made their way unnoticed up the muddy road to the mines.

From behind them came the ceaseless roar of the ocean, crashing thunderously on the sand. Other sounds built through the rain to them from ahead. The clank of hammers and the screech of wheels on rusty rails. The muffled shouts of workers.

Suddenly the whole scene was revealed as the fog tore aside momentarily. Twenty gleaming, bullet shaped space ships formed a line before the hangars. A swarm of men came and went in the frantic business of readying them for the trip. Dozens of swamper huddled in the cold rain before the mine entrances.

Agara loomed out of the grayness. "Everything is ready," he said briskly. "If you'll unlock the storage tunnel, Miss Clayton, we can load the ships and be away in an hour."

The girl nodded, and they hastened behind her as her small form disappeared into the lighted tunnel. Luminous bars, set into the ceiling like railroad ties, gave ample illumination. Ann went down the main tunnel for a few hundred feet, then turned right into a narrower one. Almost instantly they plunged into a twisting, confusing route full of switchbacks and short elevator descents.

Kent marveled at her confidence in seeming to know exactly where she was going. Every tunnel appeared the same

to him: low-ceilinged, with walls glittering from tiny bits of iridium. He asked her about it, and she glanced upward.

"If you walk exactly in the center of the tunnel," she explained, "you can see a tiny green light in the middle of each bar. Those lights indicate when you're on the right route."

Kent was still reflecting on Marshall Clayton's ingenuity in protecting his vast stores of the semi-precious metal when he had fresh reason to admire his thoroughness. Ann had stopped before a massive steel door. In her hand she held a dozen tiny gold bars like nails. One after another she placed the variously-formed keys into cleverly hidden locks. As the last one slid into place, the floor trembled slightly and the door slid back.

Now their eyes widened at sight of bar upon bar of iridium ingots—nearly a million dollars worth. Without any delay the burly natives began carrying them out. Each man could carry only four of the small bars, because of the great weight of the metal.

Hedricks and Kent both fell into line and got a load to carry up. Ann was waiting outside as they emerged. "Coming back up?" Kent asked her. "Or will you stay down here and keep dry?"

Her answer was vague. "No, I—there's something I must see about before I leave. I'm going down a little farther." She had left before Kent could frame any questions.

Finally, shrugging, Stafford fell back in line and began the long ascent.

Time slipped past unmarked. Hurred trips back and forth through the tunnels, brisk runs through the rain to the holds of the ships, and the clanging of closed doors that would not be opened again for weeks, occupied every man's attention, until suddenly they re-

alized the last ship was loaded.

Agara stood breathless, near the largest of the transports. "Miss Clayton always pilots her own ship," he said hurriedly, nodding at the small, trim craft not far off. "It's ready to go. I'll fly in the flagship." His hand went out to Stafford and Hedrick in turn. "If I don't see you men again, let me say this now: No finer men have ever touched Venusian soil than you. Good-bye—good luck!"

Then he was gone, leaving them to stare at the doors which had closed behind him. From down the line of ships came a bright orange flame as a rocket tube was warmed up. Others sprang up like signal flames glowing in the mist.

Without warning there was an earth-shaking roar. A rocket blast mushroomed against the ground. A rush of air screamed over the city, tailing off into a windy sigh; the first ship was gone.

The hunters stood frozen as the entire fleet blazed crimson paths from the mines into the clouds. Kent's ears rang with the concussions. Apprehensively, he let his glance wander down into the city. Harbold must know now that something was going on. Time was short.

He started to turn, but in the midst of it he jerked back to Cap'n. His face was white and drawn. "Good Lord!" he blurted. "I forgot about Ann. She said she'd be up in a few minutes. *She's been gone over an hour!*"

CHAPTER VII

Out of Death—Victory!

THEIR countenances were blank with horror. Then Kent shook himself. "Watch her ship," he clipped. "It's her last chance for safety, if—if she isn't already . . ." He left the sentence hanging like a poised knife,

and darted into the shaft.

His shouts rang emptily through the tunnels as he reached the storage room and found no sign of her. Indecision chilled his limbs. Recalling the system of light-guides, he glanced up quickly and found the green indicators continued farther on.

He sprang ahead, calling to her as he went. The lights led him along a devious path, hundreds of feet farther into the bowels of the mountain. At last he stopped in desperation.

It was then that the small, weak cry reached him: "Kent! Kent!"

In the next moment he whirled, to discover her prone form. In a few seconds he was raising her from the ground in his arms. There was an ugly bruise on her forehead, and glancing down at the scattering of boulders on the floor, he wondered that the slide had not killed her.

Ann was speaking in a weak voice: "I came down to get Dad's strong-boxes out of the other vault. Everything he had was in them . . . deeds, bonds, cash. But when I started to open it, the slide started."

Stafford glanced briefly over the door, similar to the other, and noted the keys on the floor. "Thank God!" he murmured. "I was afraid you might have been caught in a cave-in—caught more than you were, I mean. If this stuff is necessary, let's get it out and hurry back. Your ship is ready."

He bent down to pick up her keys—and went rigid, as an alien sound intruded. It was unmistakably the report of a pistol. Kent straightened. His own gun came to his hand. And now he shouted, as a figure raced past the mouth of the tunnel.

"Cap'n!" he bellowed. "We're here! What's the . . ."

Hedricks reappeared, ran wildly towards them. "Harbold!" he gasped.

"The bunch of 'em — forty-fifty — must've heard the rockets and come up the hill! We ain't got a chance. They're right behind me!"

Kent hefted his gun. "Then we won't ask a chance," he jerked. "We'll meet 'em and have it out right here. Ann, are you game, or would you rather we'd surrender?"

"You said before I was a lot like my father," her reply came. "I haven't changed."

A pounding of running feet reached them. The girl was first to move. "Down here there's another shaft," she said hastily. "A corner wouldn't make a bad shelter, would it?"

Behind the raggedly hewn wall they took up their post. They were not a moment too soon. Down the curving tunnel, at the spot they had just vacated, they heard Harbold's heavy tones calling a halt.

"They been here," he shouted. "Here's her keys. We'll bottle 'em up!"

"It ain't that easy!" Stafford shouted back, and his incendiary bullet crashed off the curve of the wall to plunge into the mob. Though the angle of the tunnel prevented his seeing them, he heard a shrill scream.

Quick footfalls approached. Two of the renegades sprang past the bend to send a barrage of flaming bullets at them. Kent smiled thinly as he leveled his gun and fired a single shot. Cap'n Hedricks' revolver blasted at the same instant.

The two men went down.

"More where that came from!" Cap'n exulted. But in his face was the knowledge that it would be a short fight, if a fierce one. Between them they had not over a dozen more bullets.

A RATTLE of gunfire broke out, the bullets smashing at the wall across

from the prisoners and caroming into them. Several times they were saved only by the angle of the corner. As the echoes died away, Harbold spoke once more.

"I could keep this up all night, but what's the use?" he mocked them. "You picked the wrong place to hole up, gal. Remember I helped dig some of these shafts as a mucker, before I got smarter than your old man!"

Kent shuddered as he sensed some hidden meaning in the words. He glanced at Ann, saw her brows knit in thought.

"Or maybe you don't remember," the renegade pursued. "Me—I ain't forgetting that we carried a couple cases of *argonite* into this vault here! I got the keys—I got a match. What more do I need to plant a fuse in that stuff, get out of range, and blow you out proper? Or you can try to put it out . . . and draw a few dozen bullets from us!"

There was coarse, excited laughter from his crew. Stafford's mind pictured the heavy door being swung open even now. Ann Clayton's gasp pulled his eyes down to her face.

Then she was crying, "You fools! That's not a powder cache—the *argonite* will go off if the door isn't opened by someone who knows how!"

The news brought shocked silence. Kent hissed, "Ann—why didn't you let them do it? It was a chance."

She gasped, started to utter vain regrets, but stopped as Harbold's voice came again.

"I'll take my chances. I'll believe one of you when I get it in writing."

Hack Bacon shrilled, "Gimme the keys, Oak. We'll have 'em skyrocketing to hell in no time!"

Cold sweat broke out all over Kent. He pressed back behind the buttress, listened to the lower, more purposeful murmuring. Ann covered her face with

her hands. Hedricks was silent and watchful. "Can't say we didn't warn 'em!" he smiled thinly.

Stafford's muscles felt like steel rods. Here in this tunnel, within a few moments, would be decided the fate of Hila Fonda. Would Harbold go ahead and open the door that was the gateway to death? And if he did—would they themselves ever leave alive?

Distinctly the rasp of keys came to their ears. In the next moment Harbold broke the silence. "Wait a minute!" he snapped. "She ain't said anything else. Maybe she was telling the truth!"

Then, breaking in on his words, was a shout from Bacon. "My God, boss—I can't get the keys out. *The door's opening by itself!*"

Silence, that was like a wire drawn tight . . . then shouts, scrambling, and a quick pounding of someone's boots coming toward the horrified trio.

In that instant the earth seemed to draw itself up and poise before exploding into millions of fragments. Vivid white flames sheeted down the tunnel past them. Through the dull thunder rolling up the shaft there knifed a chorus of agonized shrieks.

Kent's body seemed to expand, blown up by the concussion crushing him. It deflated with an awful suddenness, leaving him weak, stunned. Dust whirled and eddied through the passageway. Then he was jarred from his coma by the spectre that careened into view.

It was Oak Harbold, or what was left of him. He had run before the explosion took place, but his clothing hung in dirty shreds, and his skin was blackened and bloody. But in his fists he clutched his guns.

"You beat me, Stafford," he choked. "Tricked me. But you won't trick these!"

Kent fired in the same moment Harbold's guns bucked. The two explosions lay atop one another in the dusty air. Oak Harbold stood for a moment as he had fired, then his whole frame shook with a mighty sigh and he dove solidly into the rocks. There was a glowing spot of red on his chest where the Venusian bullet had entered . . . to burn itself out even as Harbold's life had done.

Kent turned slowly to find Ann's hand.

"It's over," he murmured. "And nobody will be sorry for it. Harbold brought hell to Hila Fonda, and he died by it. We've won everything we fought for, including the right to live like Earthmen."

And as he watched the slow flush come into her pale cheeks, he knew he had won something more than that . . .

« « A MODERN "LOST WORLD" » »

FORESTS have been migrating southward for a million years because during that period the earth has been getting cooler and drier. Trees and plants that lived in western North America a million years ago have been preserved as fossils. The imprints of leaves and even of flowers are found in certain ancient rocks.

Now two scientists, Dr. Ralph W. Chaney of the University of California and Dr. Erling Dorf of Princeton, have discovered in the forests of Venezuela what they term a sort of "lost world" where plants and animals closely akin to those of the earth's distant past still survive. "In the depths of this forest," says Dr. Chaney, "lie many secrets of the past, many of the explanations for conditions on the earth today—even suggestions of what may be expected in the years ahead."

Dr. Chaney and Dr. Dorf found that two-thirds of the trees that we know by their fossil remains lived in western North America a million years ago, now live in the Venezuela forests.

"Reconstructing the history of the earth," says Dr. Chaney, "on the basis of the fossil flora of western North America and their living equivalents in the mountain forests of Venezuela and Central America, a trend may be observed during past years from a warm moist climate to the relatively dry and cool conditions of our day. Just what were the causes of this gradual change is a difficult question to answer. Variations in the amount of heat given off by the sun, or in the insulating power of the atmosphere; shifting in position of continental masses, with a resultant alteration in currents of air and water—all these and many more factors may have contributed.

"The fact of this climatic change is fully demonstrated by the migration southward of the forests and the animals which lived in them to the only part of the world where suitable conditions of temperature and moisture still exist."

Whether we had better be prepared for another ice age in a few million years, with glaciers covering most of what is now the United States, Dr. Chaney does not venture an opinion. He does suggest, however, that human beings followed the forests when they went south, and that that is why the Mayas resembled the Mongol tribes of Asia.

—Morrison Colladay.

Science Quiz

WE present the following science questions and problems for your entertainment, and at the same time as a pleasant means of testing your knowledge. How many can you answer offhand, without referring to an authority? 70% correct is an excellent rating.

SCRAMBLED SCIENCE TERMS

1. A rare gas. NONE _____
2. A liquid used in refrigeration. ONAMAIM _____
3. A valuable metal. RIVELS _____
4. A fireproof material. EASTBOSS _____
5. An explosive. DICETRO _____

WHAT IS IT?

The molten compound, a mixture of paraffin and stearic acid, mounted rapidly upward, progressing by capillary action, this being merely a physical process. Then a chemical change began. The melted compounds of carbon cracked (decomposed by heat), becoming volatile gases. At white heat these gases further decomposed giving free carbon and hydrogen. Finally attaining a sufficient supply of oxygen, brilliant pyrotechnics resulted, and the combustion culminated in H_2O and carbon dioxide. Having observed the complete process, you unhesitatingly call it. . . ?

STRIKE OUT THE WORD THAT DOES NOT CONFORM

1. Carbon monoxide, carbon dioxide, methane, ethylene, glycerine vapor, sulphuric acid.
2. Argon, krypton, helium, hydrogen, nitrogen, neon, xenon.
3. Photosphere, chromosphere, prominence, corona, stratosphere.
4. Iapetus, Titan, Rhea, Dione, Luna, Tethys, Enceladus, Mimas.
5. Uranium, radium, aluminum, osmium, lead, gold.

TRUE OR FALSE?

1. All white Persian cats bred from white stock are deaf. *True.... False....*
2. The lion and the tiger cannot be crossed. *True.... False....*
3. There are no birds which live to more than a hundred years. *True.... False....*
4. In one billion years, astronomers believe the day will be one minute shorter. *True.... False....*
5. The moon is brighter in the first quarter than in the third quarter. *True.... False....*
6. Halley's comet appears every seventy-five years. *True.... False....*

7. The diameter of Donati's comet is 31 times that of earth. *True.... False....*
8. The south magnetic pole attracts the compass needle exactly as does the north magnetic pole. *True.... False....*
9. The chains we see dragging from gasoline trucks often cause accidents, and are directly a result of carelessness. *True.... False....*
10. The parrot, cockatoo, cockatiel, lory, parakeet, turquoisine, love-bird, kea, lorikeet, macaw, conure, amazon, and electus are all talking birds. *True.... False....*
11. Sea water weighs more than fresh water. *True.... False....*
12. Gasoline freezes at 65 degrees below zero. *True.... False....*
13. Denatured alcohol will dissolve celluloid. *True.... False....*
14. There are between 30,000 and 40,000 eggs in a shad roe. *True.... False....*
15. Artificial pearls are made from the scales of the ukelei fish. *True.... False....*

SCIENCE TEST

1. The plant which is put to most commercial use is: goldenrod, cactus, palmyra palm, milkweed, dandelion.
2. The predominant color of flowers is: Green, blue, yellow, red, white.
3. The largest weed known is the: barrel cactus, dandelion root, garden weed, kelp.
4. The seven tribes of the true Aztecs lived in: Yucatan, Peru, Mexico, Brazil, Panama.
5. The Druses are: an ancient race of Scotland, inhabitants of Syria, gods of music, people of moronic tendencies, priests of ancient Greece.
6. The "Three Wise Monkeys" who see no evil, hear no evil and speak no evil originally appear on the: Taj Mahal, the tombs at Nikko (Japan), Temple of Diane, ruins of Angkor, Coliseum.
7. Glass is classified among the following categories: Crystalline, amorphous, metallic, liquid.
8. A quadron is: a platoon consisting of four men, a white man with one quarter negro blood, an idiot, a figure with four digits, a four-legged animal.
9. A radio wave length is one of the following lengths: 3.28 feet, 2.54 feet, 46 feet, 1 millimeter, one centimeter.
10. The best metallic conductor of radio waves is: Gold, copper, iron, silver, lead.
11. The most extensive city in the world is: New York, Chicago, London, San Francisco, Honolulu.
12. The life span of a crah is: 10 years, 20 years, 100 years, one year, two years.

(Answers on page 140)

QUESTIONS — and — ANSWERS

This department will be conducted each month as a source of information for readers. Address your letter to Question & Answer Department, AMAZING STORIES, 608 S. Dearborn, St., Chicago, Ill.

Q. It is a fact that one face of the moon never is visible from earth, but I understand that more than one-half of the moon is visible. Will you explain just how much is visible, and why?—Arthur Jessup, Chicago, Illinois.

A. Since the rotation of the moon on its axis, and its rotation about the earth are not uniform, there are certain variations in movement called "librations" and we do see portions of the eastern and western faces, and the north and south caps. This is enhanced by the fact that the moon's axis is not perpendicular to its orbit. We actually see about three quarters of the moon's surface at one time or another.

* * *

Q. What causes wood to petrify? It seems to me that this indicates an increase in mass, and I cannot conceive a piece of wood getting heavier, without some definite reason?—George Williamson, Washington, D. C.

A. Wood that is not immersed in water will not petrify. And only certain kinds of water will bring about the phenomenon. It must be water with a high content of lime salts and in some instances, silica. This, permeating the wood, forms the "stone" which we later call petrified wood.

* * *

Q. Is it possible to remove the odor from kerosene?—Kenneth Williams, Buffalo, New York.

A. It is possible to deodorize kerosene by mixing it thoroughly with metallic quicksilver, shaking it vigorously many times. Let it stand for two days and then rectify. Another substance that can be used in a like manner is plumbate of soda (oxide of lead dissolved in caustic soda).

* * *

Q. What is the meaning of the term "intelligence quotient?"—Alice Caldwell, Clearwater, Florida.

A. The intelligence quotient, or I. Q. is an intelligence rating. It is determined by multiplying the mental age by 100 and dividing by the actual age. The intelligence quotient of a normal person is 100. Below 80 is sub-normal, and above 120 is gifted.

* * *

Q. Please tell me something about the new world language, Esperanto?—Arthur C. Sedgewick, Salt Lake City, Utah.

A. Esperanto was first published by Lazarus Ludwig Zamenhof, a Polish eye specialist in 1887 (so you see it is not a "new" language by any means). He called it The Language of Dr. Esperanto (he who hopes). There are about 2,900 root

words in the ordinary literary Esperanto, and some 2000 technical and scientific terms. Since the World War the language has gained favor rapidly, particularly in England, Germany, Austria, Hungary, Czechoslovakia, Brazil, Argentina, Chile, and Uruguay. It is estimated that an educated person can learn Esperanto sufficiently well for reading writing and conversation in three months. Many local Esperanto groups have sprung up, and hold regular meetings for the purpose of spreading the language still further.

* * *

Q. How many eclipses of the moon can there be in a year?—Wallace Gregory, Aurora, Illinois.

A. There can never be more than three lunar eclipses in a year, and in some years, none at all. The moon is eclipsed only when it is near one of its nodes at the time of full moon, the nodes being the two points at which the moon's orbit passes through the plane of the earth's orbit.

* * *

Q. How strong is sunlight, actually, when measured in terms of candlepower?—Marion Diesseroth, Santa Barbara, Calif.

A. The astronomer, Camille Flammarion, by means of photometric measurements, discovered that the light from the sun is equivalent to 1,575,000,000,000,000,000,000 candlepower.

* * *

Q. What does a praying mantis look like and where does it get its name?—B. Shaw, Toledo, Ohio.

A. The praying mantis is a distinctive insect, and may easily be identified. The head pivots in all directions on a thread-like neck. The body is very long and slender and is supported by six long legs, the front pair of which are used to grasp its prey. When quiescent, these front legs are held in the position a person assumes when kneeling in prayer. It is from this posture that the name is derived. When full grown, the praying mantis is about three inches long and pale green in color.

* * *

Q. Reading about the micro-film placed in the "Time Capsule" for posterity, for preservation, I wonder what is the life of an actual motion-picture film, or a print thereof? I mean in actual usage.—E. M. Wilcox, Pasadena, Calif.

A. There is a difference, we are informed by film producers, in the silent film, and the sound film. They find the sound film to have an average period of use of from 50 to 75 days, while the silent variety lasts from 90 to 120 days.

Meet the Authors

R. R. WINTERBOTHAM

Author of

MADNESS ON LUNA

WHEN Science Fiction first began to appear more than a decade ago, I bought a copy—of *AMAZING STORIES*, I believe—at a newsstand. I read it quite amazedly and never bought another until 1934, when the NRA gave me so much time that I read everything in sight.

Previous to this, as you may have guessed, I was born. I had quite a time of it, I was told—the wind blew and it was an awful struggle, like everything else. But I haven't been ill since. And that was Aug. 1, 1904.

I attended public schools, excepting one year spent in a military academy. I learned to read and the first books I read were Robinson Crusoe and Nick Carter (yes, I liked the "Oz" books and everything else). I think the story about Nick Carter going down into a volcano got me interested in science fiction. I would have liked that yarn better if Nick had found a lot of blue devils down in the bottom.

When I went to the University of Kansas, I determined to follow my father's and my grandfather's footsteps and become a doctor. Two years later, I got my grades—fifteen hours of straight "D's." It was too much of a struggle. I pulled out and went to Kansas City. For quite a while I lived on damaged cookies discarded by the Loose-Wiles Biscuit Company in the bottoms near the stockyards. I slept in a room filled with bedbugs and it was nearly zero weather without heat. Suddenly I ran across a friend of mine who also was broke, but he had a model-T Ford. We sold the Ford and hit for home.

I hadn't been home two days when the editor of the local newspaper called me on the telephone. He said he needed a reporter and offered me \$10 a week. I had never reported in my life, but I took the job. I was fired twice, but I took a correspondence course in journalism and came off the job a thoroughbred newspaperman.

I returned to the University of Kansas. Several years later when my sister attended the university

they were still talking about her brother who would write a theme, a term paper or a master's thesis for \$1 per thousand words and get good grades. They say I made \$30 per week, but this is an exaggeration. I made that only one week. Finally, I graduated.

I decided nothing was too good for me, so I went to Chicago, where the *World's Greatest Newspapers* were published. There I went to sleep on an elevated train and slept into a job as a reporter for the *Evanston News-Index*. It's too

long a story to put here, but I literally slept into the job and they hired me because my name was Winterbotham, thinking, of course, I was related to the Chicago Winterbothams. The relationship is very vague, although my grandfather said something about it once.

I was offered a job on a magazine and I left the paper, but the magazine hired someone else while I was in Kansas for a short vacation. Again I went to Kansas City and nearly starved. With a traveling man, I started touring the state of Kansas and eventually landed a job with E. Haldeman-Julius of Girard, as circulation manager for his three magazines. One day I

was asked to write a Little Blue Book about Lindbergh. To everyone's surprise it sold rather well and I did two others. "Curious and Unusual Love Affairs" and "Curious and Unusual Deaths."

I wrote quite a bit and then tried my first venture at free lancing. I went broke again and got a job in Albuquerque, N. M., until the Little Blue Books wanted me to come back. I left again to work as police reporter on a paper in Champaign, Ill. Then I came back to Girard and left again, this time to work in Oklahoma. Then I came to Pittsburg.

In 1934 I wrote my first science-fiction story, after deciding I liked it. I wrote another and then another. The third one sold to *Astounding Stories*. It was "The Star that Would Not Behave," which my critics tell me was a woeful example of literature. Up to that time I had written 42 pieces of fiction without selling a single one, although I had



R. R. WINTERBOTHAM

written considerable non-fiction and sold it. It was nearly a year from May, 1935, when I made my first sale, until I began selling regularly. I sold considerable science-fiction and in addition I sold westerns, detective stories, adventure stories and comic strip continuities. Last month I sold more than 60,000 words, although I did most of it on assignment, and four of the stories were comic strip continuities. The only strip I have on the stands now is "Tim Todd, the Boy Detective," appearing serially in Super Comics, although my sequence of "Clyde Beatty, Dare Devil Lion Tamer," and "Gene Autrey," probably will be on the stands when this is published. I don't know what magazines will print them.

The funny part of it all is, that I wouldn't give up my newspaper job if I sold 100,000 words a month. All of my ideas, pseudo-science and all, come from my visits with people in the line of duty. I tried free lancing about a year ago and I sold only 50,000 words in seven months. Then I came back to my old job and started selling again.

I like science-fiction because I think I can tell readers a lot of things in an entertaining way. The only message I have to offer in all of my stories is: "Life is hard, life is earnest, but it is funny as the dickens and I like it."

The best retort to this is the comment a man made on the street the other day, when he saw a copy of *AMAZING STORIES* in my pocket.

"Do you read that magazine?" he asked. "It's a bunch of damn' lies!"—*R. R. Winterbotham, Pittsburg, Kansas.*

EANDO BINDER

Author of

THE FLAME FROM NOWHERE

IT won't seem strange if I say that I sometimes dream science-fiction. Dozens of times I've been on other planets, via the sandman, but strangely enough, not a single one of my stories has been directly inspired by a dream, with the exception of this one.

The dream started out pleasantly enough as a small campfire over which I was warming my hands. I don't remember where the camp was or what I was supposed to be doing there, but there I was. Suddenly the fire exploded and flames were all around me. And then—yes, of course—I woke up. Not much inspiration there, but that same week I happened to read about the latest cosmic-ray researches and the fact that they do cause a slow, very slow "combustion" through all Earth. That is, the cosmic-rays, with their great penetrative power, constantly arrow through our bodies and our surroundings, breaking up atoms.

What if the rays were intensified? And that's where my dream came in, for in that I had had the nightmarish feeling that all the world was burning up. This also falls in line to some extent with various doleful prophecies that if atomic-power is once achieved, the process will get out of hand and consume the entire world.

If the forces of the subatom were to become a

runaway scourge, it would be a frightful menace, since anything and everything would be its "fuel." One can picture the fire department in a city pouring water at the "fire" only to see that substance add to the furies of the "flames." As a destructive menace, I can hardly think of anything worse, unless it would be falling into the sun.

Einstein started it all with his postulate that matter can be transformed into energy. At first it was merely a pretty theory, but since then modern atom-smashers have done just that, on a small scale. On such a small scale, in fact, that there is no proof positive—yet—that large amounts of energy can be released. But if we read some day that Dr. So-and-so's lab blew up and started a strange, spreading fire that water won't put out, let us not be too surprised. It will only be the world burning up. Pleasant dreams!—*Eando Binder, New York, N. Y.*

POLTON CROSS

Author of

THE MARTIAN AVENGER

I DON'T know how many stories I've read which treat of other planets stealing water or air or radium, or some other valuable thing from earth, and with each one I've had the thought that maybe the story might have been reversed, and been a bit more true.

Mars, today is a dead world, lacking sufficient atmosphere to support life (by this I mean human life—you *AMAZING STORIES* astronomers—since I can see you start up with the exclamation: "Wrong! More recent photographs show Mars to have an atmospheric blanket extending 50 miles up!") And *that* will support some form of life.)

The more natural thing to assume, when we begin to assume theft, that perhaps that's how Mars lost its air and water. And what more logical assumption to begin our story than our own planet was the culprit?

But this isn't a story of theft. It is a story of Martian life cells, brought to earth and fertilized. Conceivably, this might be accomplished. If anywhere on Mars there exist living cells, preserved perhaps by a dying race (and you can't tell me Mars never had living, thinking beings) then it follows that they can be revived, and caused to develop.

It was around this idea that I built my story. And to give the Martian thus brought to life some reason for being here, I gave him a motive for acting in a menacing manner.

I hope you like the story, and I'll be back again.—*Polton Cross, London, England.*

FREDERIC ARNOLD KUMMER, Jr., Author of
INVISIBLE INVASION

TODAY all the world is arming for war, or, if you prefer, peace. None the less, they are arming. In studying the weapons which we are so feverishly manufacturing, one is struck by the primitiveness of them. To be sure they are dressed up in efficient modern garb, but the basis of their ability to kill is as old as time. The bullet,

whether machine-gun or rifle is no more than the arrow vastly improved. The bayonet, is the modern spear. Cannon are present-day catapults, and flame-throwers are the same as the Greek fire of the ancients. Gas alone, is new and with the proper masks, ineffective. In ten thousand years man has found few new ways to kill.

The future no doubt, will bring rays, rays of every type. But what of tomorrow, the war that seems imminent in the next five or ten years? Will efficient man find new and efficient ways to slaughter his brother? In "Invisible Invasion" I have tried to present one of the methods that may be used. A force, quite common today, that will destroy steel, stone, wood . . . and human life. A plague it seemed at first, until buildings began to collapse, bridges to fall, steel to disintegrate. London destroyed, England a shambles . . . a triumph for the makers of war.

Perhaps this story, laid within the next decade, will seem fantastic, where one laid in the dim distant centuries to come might not. Yet is not the barbarism and ruthlessness of the present day more fantastic than any story? Had one written the story of today's headlines ten years ago, he would have been laughed at. Perhaps, ten years hence, the silent, deadly, ruthless destruction of London which I have attempted to picture may also be reality. But for the sake of the world I hope the drifting death never becomes an actuality.—*Frederic Arnold Kummer, Jr., Baltimore, Md.*

THORNTON AYRE

Author of

WORLD WITHOUT WOMEN

A VISIT to a stag party started the idea of "World Without Women." As a matter of fact I became pretty bored with this particular party, not because I am a ladies' man (perhaps anything but that) but because there struck me as being a certain harshness and crudity about the whole thing that a woman's softening touch could have mellowed.

From a room without women my mind jumped ahead to a country without them, and then a world! The idea was born. . . . What sort of a place would we have without a ministering feminine hand anywhere? Pretty hard sort of place, thought I.

It brought up the natural consequence of falling birth rate. It suggested frantic efforts at synthesis. . . . But suppose—just suppose—if such a thing came about one woman was still alive on another world? There I became really interested. But how to add a little touch of the mysterious? Well, if she was undeniably present on another world, and yet her body was found dead on the Earth, like the rest of women, what then? For a long time that point perplexed me nearly as much as the hero. I solved it by methods which you will observe for yourself.

I did feel though that I had got a really interesting yarn of science fiction worked out. It all depended how I pieced the thing together. It could have been one of the most banal efforts

yet done, I think, without the saving grace of being mysterious. Ah, sweet mystery of life!

I tried to imagine myself in the position of the hero—faced with a dead cold piece of clay that had failed to respond to his scientific appliances—then his emotion at suddenly discovering this synthetic being had become the key to an even deeper riddle. It lent a new meaning to synthesis, and probably a pretty logical one.

I do not suppose in the light of modern science that a disease ever will spring up which will defeat all medical knowledge and destroy everything female on the face of the earth. I say, I do not *suppose*; but anything *can* happen, and on that point swings the whole plot of the story. In it, I have dealt not so much with the despair of humanity at finding women have gone forever, but in the courage of one man alone who, inspired by a girl's photograph in a magazine, set to work to conquer the impossible—and in so doing saved the world.

Here I close, with the hope that you like "World Without Women."—*Thornton Ayre, Blackpool, England.*

ED EARL REPP

Author of

THE DEADLY PAINT OF HARLEY GALE

OUT here in the Santa Monica Mountains bordering the historic San Fernando Valley, California, I have a front yard that is covered with ivy, very beautiful indeed, but awe-inspiring for reasons of its slow, inexorable march over all obstacles in its path. It is like an army of almost immortal, deathless beings, overgrowing, overcoming shrubs, trees, the hacienda, everything if one would allow it to have its way. You can cut the long spreading tendrils back, you can chop the plants off even at the roots, yet they will come alive again and crawl, crawl relentlessly, beautifully, unmercifully in seeming struggle to overwhelm the world.

I have often wondered what would happen if this ivy was permitted to grow uncontrolled, where it would lead, whether in due time it would cover the continent as the creepers and twisted vines covered our Maya ruins of Yucatan. And thus was the idea for "The Deadly Paint of Harley Gale" born. . . . if a paint pigment was created in some way and by some scientific error when spread over a building it would leap from the painter's control and spread over the entire world as Doc Hale's paint began to do when he covered the Empire State Building, then. . . .

If such a thing could and did happen, civilization would be wiped out. Men would be driven into the seas to escape the relentless march of the pigment and there would be a man-made catastrophe that could not be stopped.

A fantastic idea, of course, but not beyond the realm of probability. Man might yet make a scientific error that will see his downfall.

During the writing I derived considerable pleasure from making Le Pont du Secours do a lot of squirming where his pocket book was concerned. As in "The Gland Superman," Prof. Harley Gale

gets himself into a heap of trouble, but this time along an entirely different line. I might put myself in Gale's place in this story and the reason is obvious.

Writers sometimes make enough money to enable them to do other things. I've got a yen for building homes and now that I'm embarking on my biggest venture in this line I'm preparing to erect an eight unit apartment-court which I hope will earn me sufficient income to protect the sunset years of my family. In obtaining bids from subcontractors, one of my biggest items was . . . painting and decorating. The cost made me hit the ceiling and the contractors laid the reason to the high cost of the best paints. Immediately I began delving into why these paints are so costly and before I was through I discovered that it's a cost you have to pay whether or not the manufacturer puts it into his product. It is generally conceded that the profits from paint manufacture are enormous and, as a builder, I have to pay them.

But the idea was born there to have Harley Gale create a new form of paint to take the enormous profit from the manufacturers and give the public a break. His "Blood Pigment" paint was the result . . . but the hot water it got him into! The possibilities of the story failed to reveal themselves until we got deeply interested and then, well, let's hope that someday a real Harley Gale will come along and take some of the teeth out of the public paint expenses.—*Ed Earl Repp, Van Nuys, Calif.*

BRADNER BUCKNER Author of
REVOLUTION ON VENUS

OUTSIDE of being six foot tall and bugs on what lies beyond the last frontier . . . the

Heavyside Layer, there isn't much I can say about myself. I don't know whether I like writing westerns or science fiction best, but do derive a great deal of satisfaction from doing both. Being an adventuresome sort of a cuss, anything pertaining to action and exploration is right down my street. Action stories such as *REVOLUTION ON VENUS* and the westerns I've written for the cowboy magazines seem to carry me right into the thick of the things I particularly like.

I live up here in a canyon of the Santa Monica Mountains on the San Fernando Valley side in California, and right now one of the biggest, hottest and most devastating forest fires in Southland history is burning along the ridges about two miles from my rancho. There is blood on the sun today and even as I write this brief epistle, many pretentious homes in the vicinity are going up in smoke through which the sun is struggling to shine, red as wine. Whether my wickiup will go the same way depends on the valiance and ability of something like two thousand fire fighters battling to keep the blaze from sweeping into this canyon which is covered with black walnut trees and wild holly, red with Yuletide berries. Over six hundred homes have already burned to the ground, according to the press, and to do a bit for posterity, I'll have to finish here, grab a shovel and heave-to.

It's pretty hard trying to write a "Meet the Author" hlurb when you're looking ruin in the face and as a winder-up, I'm 38, have been writing for a long time and hope to continue, but if I don't get a fresh idea of another *Amazing Story* from fighting that fire, I might be compelled to quit. Hasta la vista.—*Bradner Buckner, California.*

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DISCUSSIONS



A MAZING STORIES will publish in each issue a selection of letters from readers. Everybody is welcome to contribute. Bouquets and brick-bats will have an equal chance. Inter-reader correspondence and controversy will be encouraged through this department. Get in with the gang and have your say.

REFRESHINGLY GRATIFYING

Sirs:

Whenever I run into anything as refreshingly gratifying as Manly Wade Wellman's "Battle in the Dawn," I want to take the trouble to get down and say so, to the writer and to his public. This kind of a story does more than merely earn a check; it has the quality of those that also do the reading public a service.

I wish to congratulate Mr. Wellman on the following qualities in his yarn. First, it has its feet scientifically on solid ground, and in the welter of fairy tales we are getting nowadays, this is most heartening to a scientifically trained reader. It expresses in single incidents or individual events, allegorically, so to speak, great biological principles, and evolutionary developments that required thousands of years in actuality.

That is good pedagogy. The fumble, fail, hurry, forget, and long afterward accidental recurrence of the same story, over and over again, before habit-paths are established in the race, is disheartening and does not make good literature; Mr. Wellman has made it digestible.

He has given us a view of Nature's experiments with species, in her effort to develop a creature of whom she might be proud; she tried in Europe, she tried in the East Indies, and probably in other places, and her efforts were poor. But her Asiatic effort was superior to the others; Mr. Wellman shows us how. Even the touches of primitive psychology are done with a masterly stroke.

My hat off to you, Mr. Wellman. Your yarn has done me good. I should like to see more of that type of material in the magazine.

*Miles J. Breuer, M.D.,
925 Stuart Bldg.,
Lincoln, Nebr.*

- Thanks, Mr. Breuer. The editors are sure Mr. Wellman will be glad to know what a top-notch author thinks of his work. As for our readers—well, they've certainly said plenty about the story.—Ed.

SPACE SHIPS

Sirs:

Ever since I saw Krupa's design for a space ship (Dec., back cover) I have been fascinated by the proximity of space travel. Most of the difficulties, except fuel, seemed to be solved. However, there

is one thing that puzzles me and I wonder if you or some reader might enlighten me.

The trouble lies in the artificial gravitation plan whereby the passenger section is revolved to create centrifugal force which simulates the force of gravity. Newton's third law of motion states that: To every action there is an equal and opposite reaction. It seems to me that, due to this law, the passenger section revolving in one direction would necessitate the ship proper to rotate in the opposite direction at a speed inversely proportional to their masses. How could this be corrected? I understand that such a correction would be necessary for observation purposes.

Also, I have noticed that Krupa has his ship riveted together. Even today it is noticeable that welding is fast taking the place of riveting. It is stronger, for one thing, and then don't forget the terrific speed of such a ship in the atmosphere. Those rivets would set up quite a bit of wind resistance. Before they started to weld planes, Howard Hughes built a racing plane and found it well to "flat rivet" it to reduce wind resistance. Surely a space ship, which will need a speed of seven miles a second to escape the Earth, will find the absence of rivet heads advantageous.

*Vertner Vergon,
4034 Hough Avenue,
Cleveland, Ohio,*

- Your editor has been thinking of your quotation of Newton's third law of motion, and wondering why you should apply it to the space ship? Have you ever experimented with a small gyro top? You may spin the wheel so that the top will stay in any position you place it, at any angle. In my recollection, I never noticed any tendency whatever of the outer shell of the top to rotate in the other direction. However, it seems logical that were the rotation of the inner section to be started out in space, by a power directly inside the ship, there would be a reaction. Thus, we might need a brake, or a drag, on the outer hull, to halt that compensating motion. In that event, your editor believes, the hull would remain in position, once the rotation of the inner portion was constant, and the outer hull duly compensated by the brake (which might be a small rocket tube). What do the rest of our readers think? Let's thrash out these problems to our complete satisfaction.—Ed.

A YOUNG READER

Sirs:

Here is a little criticism from one of your youngest readers, I'll bet. I have just passed the staggering age of 11 summers.

I think "I, Robot" in your January issue of AMAZING STORIES is *Grand* or *GREAT* or something.

And as for the others, here's the way I feel about them: "The Treasure on Asteroid X" is the next best story in line. I liked the "Black Empress" pretty good. "The Scientific Ghost" was good as I always like to read ghost stories, at bed time and then am afraid to turn out the light and go to sleep. BOOOooooo. "Interplanetary Graveyard" is good but gives me the shivers, sure graveyards always do. But I liked it just the same. And "Death in the Tubeway" wasn't so hot, if you ask me; and "Battle in the Dawn" could have been left *clean out* for my part.

I think the Future Rocket Train, the picture on the back cover of the AMAZING STORIES magazine is good. Wish I could live 999 years and maybe ride on one.

T. C. Wills,
Rt. 5, Box 26-C,
Tallahassee, Fla.

A CORRECTION

Sirs:

I have been reading your magazine for the past two years, and on the average I think it is quite good. There is however in this issue one point which I would like to clear up.

In your Science Quiz . . . Question six . . . you state—"An electron, atom, proton, vitamin . . . is the smallest—The answer given is an electron . . . I disagree with this. If you will look in Floyd L. Darrow's Story of Chemistry, on page 115, you will find the following:

Quote—One paradoxical fact regarding the nucleus of an atom we must not fail to mention. If we were to magnify the hydrogen atom until the orbit of its single electron were equal in diameter to the orbit of the earth (186,000,000 miles across) the nucleus, consisting of a single proton would be only 3.5 miles in diameter, while the planetary electron would have a diameter of 6,500 miles. In other words, although the proton is more than 1,800 times as heavy as the electron, its size is less in almost the same proportion.—Unquote.

W. A. Morse,
Sultan, Ontario,
Canada.

"DIFFERENT"

Sirs:

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story of Seven Fearless Engineers is well deserving of its place in the contents of the Feb. issue.

You promised us serials some time ago. Where are they? Surely there are many science fiction novels that are deserving to see the printed page.

Paul is coming? Swell! Wish Fuqua could turn out more inside work of the quality he did in illustrating "The Secret of the Ring," "The Man Who Lived Twice." It would seem as though he had taken more pains to do these. Krupa's most impressive drawing is for "Patrolman E-6 Gets His Man."

The only other stf. mags. that date themselves two months in advance are bi-monthlies. When AMAZING was previously a monthly it was dated one month in advance. All the other Ziff-Davis magazines are dated one month in advance.

*Jack Darrow,
 3847 N. Francisco Ave.,
 Chicago, Ill.*

● We were pleasantly surprised at the rating given to "Mr. Craddock's Amazing Experiment." It seems an amazing fact that each English author to appear in AMAZING STORIES walks away with first or second honors. Can it be that the American writer must play second fiddle to the English?

Would you prefer to have us skip an issue of AMAZING, to bring it up to compare with other magazines? That would be the only way to do it. Your point that the other magazines are bi-monthly isn't evident by comparison. AMAZING STORIES would appear each month as an out-dated magazine. In short, we'd have an April issue on the stands with all our competitors presenting May, or June issues. And who wants to buy an "old" magazine?

As for Fuqua, we think he's science fiction's top cover artist, and we've had him concentrating on the covers. You'll see the result of this on the present cover, which is something your editor will take great pride in hanging in his editorial sanctum as a shining example of real science fiction creative ability, plus an artistic technique that can't be beat.

THE FUTURE OCEAN LINER

Sirs:

I was much interested by the sketch and article on the liner of the future contained in your last number. A colleague of mine, Mr. A. C. Hardy, and I, delivered a lecture to the Institute of Marine Engineers here on this subject.

I think the author of the article you publish makes a few technical errors, for he seems to believe that ships are shaken and buffeted by the action of the wind, and this is entirely wrong, as the only element having any effect on a big liner is the sea, and the force of the waves can only be eliminated by size. Big liners, like the "Normandie" and "Queen Mary," by their huge size, are nearing a solution of the problem, but to have liners running smoothly on the ocean, whatever the weather, it is very likely that ships of nearly

twice the size of these vessels should be built.

The same reasoning applies to speed, which the author of your article qualifies as "... hull flashes across the water at speeds that seem almost impossible. . . ." There is a close relation between length and speed on any vessel, and when that limit is reached for a type of hull, it is impossible to increase the speed, notwithstanding any large increase of power, so the liner of the future, if she is to fulfill the dream of Mr. Julian S. Krupa, will have to be extremely large, heavy and of great length.

Yours very truly,
P. de Malglaive,
French Line,
French Line House,
20, Cockspur St.,
London, S. W. 1.

THE WEINBAUM NOVEL

Sirs:

It would seem that upon me has fallen the rather important task of convincing you "New Adam" should be published. Let me show you a few angles of the matter I think should be taken into consideration.

I believe the story to be a great one, and in that belief you, the editors, concur with me; therefore that we accept as true. I agree with you that it is not "pulp newsstand" fiction as you put it (more of this later), but I disagree with you when you say it is not science-fiction. Any story that shows the reactions of Man under any strange conditions, that shows the basic fundamentals of Man's social system by any contrast, and also how to correct it if necessary (and who will deny there is great room for improvement?), any story doing this or any of the things corollary to it, is science-fiction.

Your contention that many readers would not enjoy it is undebatable . . . but is much a matter of opinion. Your remarks about the type of thing—"action with rayguns, manly heroes rescuing fair damsels from the ferocious people of Venus, etc."—is hardly complimentary to the readers. I disagree with you on this score particularly. I, it must be confessed, have long been of this view myself, but upon consideration of fact, have found it necessary that it be modified. That many trashy stories—pure pulp stuff—have been liked and extolled by the public is plain. But, at the same time, think for a moment of the greatest stories—novels—that have appeared in the pulp sf. mags. Then think of how they were received. Such stories as "Rebirth," "The Metal Doom," any of the many subtle—more or less—satirical novels of Coblenz, and, up-to-date, Weinbaum's own "The Black Flame." These stories are undoubtedly the best to appear by literary and aesthetic standards . . . and they were *all*, all, mind you, hailed as classics. There would be readers who would not like it, but I doubt if they would outnumber those who have disliked many others in the past.

Let me suggest that you do this: devote some time and space in your editorial next month to telling frankly and plainly just what the readers

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could expect from the story. Ask them for votes. A definite "yes" or "no." Abide then by the decision of the majority of those responding. If the story is disliked, and you take a purely personal and careful commercial point of view when you say you think it would be, then you will have complied with the majority of the readers who care enough about the magazine to comment. If it is liked, then all will be well. And if you don't take some similar course, you may incur the dislike of many readers for not at least giving them a chance to signify their desires—irregardless of what they may be.

There is one other method of showing you that we do (and I mean most readers) want it printed, but the opportunity to demonstrate it is too far off for the present. . . . I am referring to a perhaps unanimous vote which would be given at the First World Sin Convention in New York next year . . . only, it's too far off.

You have been so kind as to print several letters of mine in the past; I sincerely hope you will do the same with this . . . why, should be self-evident.

Jack Chapman Miske,
5000 Train Ave.,
Cleveland, Ohio.

● We present this letter as typical of many, many others we have received, and due to the pressure placed upon us, we have done the only thing possible for us to do—we have purchased the Weinbaum story.

No doubt, Mr. Miske, and all those others who agree with him in demanding the story, this will be the best of news to you.

The story, very briefly, is the story of a superman, the coming mutation of man, who is as different from ordinary men as we are from apes. And yet, he must fit himself into a world of ordinary men. The story of his struggle to do this takes up much of the book. His search for knowledge, in which he learns many amazing scientific things, is detailed. His search for power, as a result of those scientific inventions follows. Finally his search for happiness in a world to which he doesn't belong, brings him through the gamut of seeking earthly pleasures to love of a woman of this, to him, alien world. The climax presents the terrific realization of his real purpose in being, the tremendous duty which faces him, and the tremendous sacrifice which is demanded of him to carry it to completion.—Ed.

HOW OLD WAS METHUSELAH?

Sirs:

This letter is an attempt to disprove by logic your articles in the "Editors' Observatory" of the February edition about old age.

In the first place, it does not seem at all logical that a Methuselah's age, in which nothing was known of disease or cleanliness, that a man could live nine times as long as the oldest men in an age in which disease and cleanliness are thoroughly understood. Another drawback is that Methuselah's Age was an Age of human labor, not a ma-

chine Age, as is ours. The body in those days was used, physically, much more than today, thus should be more quickly worn out and death should set in sooner. I am inclined to believe that the years were shorter; this is the only way that such an age could be explained. The oldest man ever gets in this age is 150 years, and that is very seldom, so in Methuselah's Age it would be shorter, of course.

Let us assume that Methuselah was 100 of our 365 day years old, that means his year must be approximately one-tenth of ours (He was almost 1000 years old) or thirty-six days. Understand, I am not saying the revolution of the earth was shorter, but that their term "year" was used similarly to our month. Another thing is in Methuselah's day nothing was known of the revolution of the earth around the sun, how then could they know of a 365-day year. Perhaps their term month had much the same meaning as the Indian moon, (month) by which they judged age.

I have no knowledge of a calendar at that date and do not believe there was one; if any, how do we know their term "year" pertains to a year of our year's length.

You speak of Harvest seasons mentioned in the Bible, it is very likely that they had, not only the Harvest seasons, but many others also. Does this prove that their years were 365 days long? It would have been as easy to have had the seasons with thirty-six day year, the different seasons coming in a different year. It is also possible that when translated the ancients' word for "month" was mistranslated to mean year.

You have said that there probably is a gland in our body which tends to cease functioning, causing old age. Why one gland, why not all the glands and organs as well, which have become worn out by long use?

If I am right, the dream of exceptionally long life by the aid of science is merely a pipe-dream.

Jimmy Golden,
Pineville, Ky.

● The conception of the Earth revolving about the sun is comparatively new. Thus, how do you account for the fact that the calendars preceding this astronomical discovery contained substantially the same length of year as now? A study of the Bible can leave no doubt as to what the length of a year was considered to be. It certainly wasn't a Lunar month. No change in chronology was effected when man began to die at an earlier age. These ages are definitely detailed in Genesis. Have any of our readers further arguments on this question of length of years in Bible times?—Ed.

MORE ABOUT CORRECT SCIENCE

Sirs:

Your correspondent does not find anything seriously wrong with the March Science Quiz so comes to your defense against Mr. Murr of Cal. who criticises the science in your stories.

As I have remarked it is permissible to take liberties with science in the stories. But in this

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20x4-48	\$3.15	\$4.05	\$4.65
20x4-50	\$3.25	\$4.15	\$4.75
20x4-52	\$3.35	\$4.25	\$4.85
20x4-54	\$3.45	\$4.35	\$4.95
20x4-56	\$3.55	\$4.45	\$5.05
20x4-58	\$3.65	\$4.55	\$5.15
20x4-60	\$3.75	\$4.65	\$5.25
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20x4-74	\$4.45	\$5.35	\$5.95
20x4-76	\$4.55	\$5.45	\$6.05
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case, as it happens, the story was OK.

First, aside from undocumented cases, the Daily News of Jan. 11 carries a story of Mrs. Dull and her mother who were knocked out by coal gas and revived. And "The Doctor Looks at Murder" by Dr. Marten, Deputy Chief Medical Examiner of N.Y.C., page 94, cites illuminating gas poisoning from which the victims recovered—temporarily. As the active poison in coal gas and illuminating gas is CO and they were not "already dead," Mr. Murr is refuted.

For some curious reason the amalgamation of aluminum *does* break up the oxide film and permit the continued reaction with water. On this I cannot quote the book, but I have done it. Actually the difficulty is the amalgamation. But it is possible and that is good enough for a story.

Contracus, New York City.

● Thanks, Mr. Mysterious Contracus. Friend Kummer will be glad to know that Mr. Murr was wrong in his statements.—Ed.

THE QUESTION OF LETTERS

Sirs:

Bob Tucker was kind enough to mention me by name in his letter in the February issue; in fact, he placed me at the head of his list. Needless to say, I'm highly flattered, as well as by the kind editorial comment "Perhaps you yourself can place a letter in the category of Murray—", although I consider friend Tucker's letter every bit as good, if not superior, to mine. However, I find it necessary to disagree with him in principle as regards readers' criticisms reaching "Discussions."

No one likes "rubber stamp" letters of the type he describes more than I. But when a really intelligent one sneaks in, one that analyzes and dissects the various stories of an issue from their scientific, literary, and readers' interest standpoints I'm all for them. How otherwise can an editor determine his customers' desires and make up his magazine accordingly?

I've been a loyal protagonist of "Amazing" ever since Gernsback's first issue. I've watched its ups and downs, the former with delight and the latter with despair. When it changed hands last spring I said to myself "Well, let's see what comes of this!" To date my verdict is that it has made a decided improvement over the faintly expiring gasps of the previous "administration." But I believe it still has much to achieve.

Another point that has interested me is Jack Chapman Miske's request for Weinbaum's "The New Adam," and the editorial reply thereto. While I quite agree with the latter as to the desires of the average pulp fiction fan, I believe that the publication of a few such stories as this, at least as a "trial balloon," would make the magazine become that "adult fare" ye editor so wistfully describes. And that's what it needs, believe it or not, if it wants to regain its former commanding position.

It has occurred to me that perhaps I was a bit

hard on Lieutenant Pease, in my remarks concerning his story "Horror's Head," in the October issue. Certainly he, like any other, has a right to his own opinion. I must say that I don't especially appreciate it to see a country that has made the astounding rise from semi-barbarism that Russia has during the past twenty-two years made a bugaboo and object of vituperation and vilification, (take some of Captain S. P. Meek's earlier yarns, for instance), purges and executions notwithstanding.

But I think my suggestion that Lieutenant Pease be disciplined was a bit overdrawn. I seem to recall being guilty of a bit of "red-haiting" myself in my story "Stellarite," away back in 1933. Lieutenant Pease wrote me a far more courteous letter than mine, and I take my hat off to him as an officer and a gentleman!

*Richard Rush Murray,
Bohemia Manor,
Eastover, S. C.*

P. S. The March "Amazing" has just arrived. A glance at its table of contents shows six tried and tested names of science fiction, plus one newcomer, Isaac Asimov. So far I've had time only to read the latter's "Marooned Off Vesta" and "The Observatory."

"Marooned Off Vesta," while not terribly exciting, is well constructed and its main theme, use of the reaction of steam for emergency space propulsion, is darned good! I don't recall having seen it used prior to this.

The first item in "The Observatory" certainly appealed to me.

I see with glee that the old maestro, Ralph Milne Farley, joins me in demanding "The New Adam."

I'll add that I place "I, Robot," January, and "Wanted: 7 Fearless Engineers," February, as topnotchers respectively, although the former is far and away the best of the two.

R.R.M.

● The editors think this letter speaks for itself. And certainly, it falls into Tucker's own category, even if it does disagree!

And right here is a good place to list the results of the February readers' opinion on the stories. Hereafter, you know, if you've already read the observatory, we will have a special section for this listing, because it means extra cash to the winning author.

1. "Wanted: 7 Fearless Engineers," by Warner Van Lorne.

2. "Mr. Craddock's Amazing Experiment," by William F. Temple.

3. "Valley of Lost Souls," by Eando Binder.

4. "The Phantom Enemy," by Morris J. Steele.

5. "The World That Dissolved," by Polton Cross.

6. "The Light That Kills," by J. Harvey Haggard, and "Lost On the Sea Bottom," by Ed Earl Repp.—Ed.

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THE CONTENTS PAGE CUT

Sirs:

I'd like to try a couple of blasts from my forward rocket jets and land in the middle of the *Ars Gratia Dei* controversy now raging (under stimulus of acid-penned readers Miske and Rowherger) anent changing the heading on your contents page.

The times I've written "Letters to the Editor" you could count on your two typing fingers, but this time I believe I'm justified. You see, I happen to earn my daily salt—and my monthly *AMAZING STORIES*, of course—by laying out ads for commercial artists to letter.

Take it from a child of sad experience, few artists are good designers; that is, layout men. Unless the usual artist has a very careful layout to follow in making his drawing he will invariably wind up with a finished job just as stinko as the one your friend Rowherger submitted or the one which graces your contents page.

The shape or style of the various parts of a drawing are not all-important. If the drawing is well laid out the artist can technique it with a toothbrush, letter with a burnt match or even put in anatomy out of a surrealist's handbook—yet when complete the net effect will be good to look at.

Will you ask Fuqua, Krupa and the others in your stable of artists if they have ever heard of coquille board; and if so, why they don't use it in combination with pen to get a softer effect in their illustrations. Using a brush would help them get rid of their harshness, too.

I've read *AMAZING STORIES* off and on since its inception; hope to read it off and on in the future. Which it will be depends upon you and your contributors. I'll read it if you can get stuff like the *Skylark* stories: I can always get twenty cents.

*George Woolson Burr,
2423 18th St. n.w.,
Washington, D. C.*

● In this issue you will notice several revamped cuts in *AMAZING STORIES*. The question of the contents page cut is also under consideration. Your comments on artists and layout men are interesting, but I don't think you'd find much enthusiasm among our artists, who are required to do a great deal of layout work as part of their duties on the staff of *AMAZING STORIES*, *POPULAR PHOTOGRAPHY*, *RADIO NEWS*, and *POPULAR AVIATION*.

As for softer effects in illustrations, you don't agree with others of our readers who like every detail to be clear, especially on machinery and other gadgets whose workability they cannot easily be convinced of. Artist Fuqua, on our covers, has proven very popular because he pays strict attention to detail. Note the present cover.

Don't accuse Krupa of using a pen (not where he can hear you). The truth is that Krupa has never touched pen to any of his illustrations. All are entirely hrush work. Nor do we think it harsh.

As for Skylark stories, we'll give them to you, never fear, as fast as our authors turn them out. So keep on reading us—more on than off.—Ed.

AN AUTHOR-READER

Sirs:

In Robert Bloch's letter in your March issue, he stated that Ralph Milne Farley, Leo Schmidt, Bob and I were making a space ship. This was true. But early in January the rigors of the Wisconsin winter got too much for Bob and he fled to the south. And he took the blue prints of the space ship with him.

I'm not worried much about him actually flying out into space, however. Anyone who can't stand a little Wisconsin cold would never dare tackle the eternal colds of space.

In support of my recent story "Purge of the Deaf," I enclose a clipping which would seem to score one more for the ultimate truth of the science in AMAZING STORIES.

Hypnotic Speaking Held Hitler's Lure

CLEVELAND, Dec. 28—(A.P.)

Science shows that the words of Adolf Hitler reduce his listeners to a submissive state bordering closely on hypnotism, Prof. M. D. Steer of Purdue University, told the convention of American Speech Teachers today.

The frequency of Hitler's voice in a typical sentence, he explained, is 228 vibrations a second as compared with the 220 vibrations cited by one authority as the usual frequency for anger.

"It is his high pitch and its accompanying emotion that puts the German people in a passive state," Dr. Steer said. "He stuns them with his words in much the same fashion as we are stunned by an auto horn."

The Day Right

In spite of being a friend of Bob Bloch, I'd like to put in my vote for his story, "The Strange

Flight of Richard Clayton" in your March issue. (That's, of course if another author is eligible to vote). Second place, I should say, goes to "Valley of Invisible Men" by Edmond Hamilton, and third to Eando Binder's story "Trapped by Telepathy."

Arthur R. Tofte,
741 A S. 23rd St.,
Milwaukee, Wisconsin.

● We appreciate the clipping, Mr. Tofte, and we reproduce it here for the rest of our readers.—Ed.

KUMMER TO HIS OWN DEFENSE

Sirs:

I note in your March issue a letter from Mr. W. C. Murr of the California Institute of Technology in which he questions certain scientific particulars of my story THE TREASURE ON ASTEROID X in the January issue of AMAZING.

In the first instance, as to the effects of CO upon the human system, I heartily agree and endorse Mr. Murr's lucid explanation. But as I understand it, he doubts that a person succumbing to CO could be revived. He writes, "Anyone who inspired enough of the gas to cause drowsiness would already be a corpse." Overlooking numerous cases in newspaper files referring to persons rendered unconscious by CO and successfully revived, we turn to the testimony of Admiral Richard Byrd in his fine account of his Antarctic expedition, "Little America." On pages 203-4 Admiral Byrd relates how Davies, a member of the expedition was overcome by CO. I quote, partially.

"Just as he crossed the threshold he fainted . . . There was a cry for Dr. Coman . . . Davies was as limp as a rag, completely out . . . Presently, however, Davies responded to Dr. Coman's ministrations, opened his eyes weakly and asked, 'What happened?' We hustled him out into the open and walked him up and down. The cold air brought him to, all right. . . ."

Again, Vilhjalmur Stefansson, also a polar explorer of note, in his book, "My Life With The Eskimo" relates on pages 245-47 how he and three companions, Dr. R. M. Anderson, now chief of the Dominion Biological Survey at Ottawa, and two Eskimos, were seated in an igloo cooking over a small stove. Suddenly Dr. Anderson and one of the Eskimos collapsed. Mr. Stefansson and the other Eskimo extinguished the stove and, opening the doorway, crawled out, too weak from the effects of carbon monoxide to drag their companions with them. Mr. Stefansson goes on to relate how after fifteen minutes Dr. Anderson and the other Eskimo had revived sufficiently to crawl from the igloo. By the following evening the party had completely recovered.

From both of these instances we see that not mere drowsiness took place but complete unconsciousness, yet the victims recovered. Moreover, symptoms of weakness, dizziness, and partial collapse are mentioned. If such could happen in actuality why not in fiction?

The other incident in the story which Mr. Murr questions has to do with the dissolution of an

aluminum lock by means of mercury and water. He states, "Any such reaction would defeat its purpose by depositing a layer of the hydroxide over the metal and stop the reaction if indeed the H_2O formed previously had not done this."

I quote from "Reference Book of Inorganic Chemistry" by Latimer and Hildebrand of the University of California, page 108. "With the exception of iron and platinum, metals readily dissolve in, or are wet by mercury to form amalgams; many of these have been mentioned in connection with other metals, e. g. sodium, aluminum, gold, and silver."

From the same work, pages 70-71. "The metal (aluminum) does not dissolve in water unless the surface is amalgamated. The oxide does not adhere to the amalgamated surface and the metal is free to show its true electropositive nature by reacting with water or by oxidizing rapidly in air."

Italics are my own.

I may add that it has been my privilege to witness routine college laboratory experiments in which strips of aluminum amalgamated with mercury were completely dissolved when submerged in water. I fail to see why the intricate mechanism of a lock should not similarly react.

Of course, these questions must be kept on theoretical ground. To perform such feats with pick-up equipment and impure substances is only a possibility against the laboratory probability. But to make a good story we must depend on the possibility and introduce into all our formulae the symbol L , standing for luck.

Let me apologize for taking up so much space, and let me also thank Mr. Murr for the interest he took in my story. I trust he will not consider this letter as anything more than a friendly reply.

Frederic Arnold Kummer, Jr.,
Baltimore, Md.

MORE DEFENSE

Sirs:

I have just finished reading the letter of Mr. James D. Tillman, Jr., correcting author Ed Earl Repp's employment of the "frozen light in infinite entropy" theme. If Mr. Repp does not rally to his own defense, might I be permitted, as a fellow story-teller, to do so for him?

Mr. Tillman states, too succinctly, that the complete Fitzgerald transformation occurs.

Mass, however, can never be disassociated from energy. In Newtonian mechanics the energy possessed by a body of mass m moving with a velocity

mv^2 and devoid of rotation, is given by $\frac{mv^2}{2}$.

This is called the kinetic energy of translation. In the relativity mechanics, this becomes

$$\frac{mc^2}{\sqrt{1-\frac{v^2}{c^2}}} = mc^2$$

We note from the last expression that even were the mass at rest ($v = 0$) it would still possess a

kinetic energy equal to mc^2 or

$$\left(\frac{mc^2}{\sqrt{1-\frac{v^2}{c^2}}} \right) = mc^2$$

Returning to Mr. Tillman's inadequately presented formula for an instance, Mr. Tillman says, "(Using formula $M = m/\sqrt{1-k}$, where M is the mass of a moving body, m its rest mass, and k the square of the ratio of its velocity to the speed of light). When the velocity equals the speed of light, k equals one (1) and $M = m/0$ which is infinity."

Mr. Tillman will discover that under the presupposed conditions, k equals zero—reverting to my formula as given above. Thus Mr. Repp has both an auctorial and a scientific right for assuming his physicist could find a way to freeze light into infinite entropy and later release it through some devious means.

In fact, my only personal quibble with Mr. Repp's ingenious plot is the fact that were he to freeze his light thus, he would find that it would be left behind him—in time!

But I'm not quibbling. And right here and now, Mr. Editor, I'd like to speak on behalf of the writers for science-fiction magazines, and ask the readers to once in a while give us credit for having a spark of sense! As you know, but as many of the readers don't, many of us write these stories because we like to and want to—not because there is a great deal of money in them! In the time it takes me to write a science-fiction yarn, I could write and sell two or three sports or detective fiction tales. But we rack our brains to grasp some new concept; some fringe idea on the new frontiers of scientific thought; so we can present it in easily understandable, plausible guise.

And then what happens? Some college student or lab assistant goes off half-cocked, sees a fancied flaw in our reasoning, and writes a blasting letter to the Discussions column!

True, we do not always know the complete reason for the scientific novelties we devise. If we did, we should be presenting papers before scientific societies. But we all try, in our small way, to be trail-blazers. Open fields for further thought and study.

This aim, coupled with our desire to build good stories involving human difficulties, motivations and problems, is what gives birth to science-fiction. Maybe a few more rabid and wild-eyed readers would like to give us their ideas that we may weave stories around them? I, for one, would like to sit on the other side of the fence a time or two, and chuckle at someone else's crackpot theories.

In conclusion, I would like to commend you for the improvement wrought in AMAZING STORIES since Ziff-Davis took it over. I have not appeared between your covers since the new regime took over—but I hope to be there soon.

Nelson S. Bond,
Cincinnati, Ohio.

FOND OF OUR ARTISTS

Sirs:

This is my first letter to *AMAZING STORIES*, although I have been reading *sciencefiction* since 1933. I want to compliment you on two good issues, namely the Feb. and March issues. You are truly improving, for when you first took over the mag it seemed worthless and uninteresting. I didn't like your artists at first, but I am fond of them now, especially Krupa. Please get Paul to do a cover or a few inside illustrations. Where is Laurence Manning? Keep up the good work.

Francis J. Litz,
703 Brown Street,
Rochester, N. Y.

WHOOOSH!

Sirs:

There was so much praise for "Wanted—Seven Fearless Engineers" in "Discussions" of the March *AMAZING* that I went back and read it. Really a fine story; quite appealing. I hope, however, that Warner Van Lorne won't run his theme—style—whatever you call it—into the ground like Jack Williamson has.

I disagree with Mr. Stanley in "Discussions" on at least one of his statements. Stories of two months back are ancient history. The only way you can really tell what the readers are talking about, in a letter department run like that, is to have the issue referred to with you as you read the letters—and who does that? Another of Mr. Stanley's shafts, however, strikes nearer home. It does seem that anyone who makes a definite effort to get his comments in by the 15th is wanting to see his name in print—and that includes me! *Blush, blush.*

As long as I have started on the letters, I might as well make my comment on Mr. Brazier's letter, about the sphere of water in the sky. I believe that some Bishop wrote a short book expounding on this theory. I merely thumbed through it one day—the name was "Creation," I believe—but if I recollect properly, this Bishop or whatever he was said there were several concentric spheres of water. Sounds interesting, doesn't it? There might still be one up there!

It occurs to me that your stories show a lack of originality in the titles. "Vengeance from the Void," for example, has probably been the name of no less than 999 other science-fiction stories. Like the fellow who was asked to write a spaceship story for a fan magazine. All he has done so far is the title, "It Happened One Flight," but he's sure that it will apply all right. Look at such names as "The Raid from Mars," or "Marooned Off Vesta." They don't stand out like "Wanted—Seven Fearless Engineers" or "The Merman" do. A person wouldn't remember what they are about two months from now.

Well, comments on a few of the stories in the March issue. "Trapped by Telepathy" was very good. I question, however, whether the science

would stand up under cross-examination. Thoughts, you know, aren't put into words at all definitely. It's sort of a primitive mixture of words, pictures, and abstract ideas. Besides, they tumble out too fast to be distinguishable if there were some way to voice them, and I don't think the voicing of them was sufficiently well explained.

As for "The Strange Flight of Richard Clayton": Whoosh! Just Whoosh! And that it was the best story in the issue.

John H. Bristol,
5134 Conduit Road,
Washington, D. C.

ABOUT INVISIBILITY

Sirs:

Undoubtedly the best story in the March issue was "Valley of Invisible Men." But why would the invisible people turn visible after awhile? Mark Bradford explained it this way: "A living body creates new cells all the time—and in time the whole body would be of new cells, and so visible." This might happen if the people ate visible food, but they ate invisible food. The body makes new cells out of the food eaten, so if the food is invisible why shouldn't the new cells be invisible? And most of all the inert matter would never become visible because inert matter does not make new cells. Outside of this, however, "The Valley of Invisible Men" was one of the best stories I have ever read.

R. A. Sheehan,
1114 E. 17th Place,
Tulsa, Oklahoma.

OLD MASTERS

Sirs:

Although I am a firm advocate of bringing new authors and the like to *AMAZING STORIES*, I think you should have some stories by some of the old masters. Who of the old *AMAZING* could ever forget "Skylark of Space," by Edward E. Smith. Where is he now? By all means bring him back. How about the fourth dimensional stories by Bob Olsen. Henry J. Kostko, one of the finer writers of *sciencefiction*. The new writers haven't got the depth of these old ones. I'm sure that if you bring them back to *sciencefiction* you will be doing a favor that could never be repaid. Then there was David H. Keller, George Scheer, Jr., Joe Skidmore, A. Hyatt Verrill, P. Schuyler Miller, Leslie Stone, Miles J. Breuer, William Lemkin, and others.

Even if you don't bring back these old favorites, I'll still read *AMAZING STORIES* as it is the best of them all. How about a Quarterly? That is about all a person ought to ask in one issue so I'll close this letter with the wish that *AMAZING STORIES* keep going forever and that it may again rise to the high standards set by Hugo Gernsback.

Bob Ostermann,
535 N. Waiola Ave.,
La Grange Pk., Ill.

BEST ISSUE

Sirs:

The March AMAZING STORIES has come in due shape, and to give "credit where credit is due" I must say that it is certainly better than last month's offer. Anything, however, is better than last month's issue, and certain remarks therein, and certain replies received thereof. However, I should like to have the editor bear in mind that any comments which might be termed caustic are only for the ultimate improvement of scientification, and bear no personal animosity towards the editor or any of his staff, and especially towards the magazine, for AMAZING STORIES is one of the "big three" and a vital link in scientification, and anything that happens to A. S. has a general effect on the whole field. However—

The cover was at least not actually hideous, and was truly a scientificationisticover. (That would make word-mixer Ackerman do a handstand.) If we continue to have covers no worse

than that one, we shall have nothing to kick about. However, I long for a real good spaceship cover. As far as I can recollect the new AMAZING has not had one spaceship on its cover, or at least, as the featured part of the cover. (Excluding, of course, the back cover space-monster.)

The Raid from Mars was trivial, and rates nothing more, and maybe a wee bit less, than an average mark. Even Hamilton's Valley of Invisible Men rates only a little above Average. However, Isaac Asimov's first (I believe) story is really good, a gem, I guess they would call it. Marooned Off Vesta recalls the bemoaned old days with a great degree of homesickness. The Strange Flight of Richard Clayton is also one of merit, and brings to mind the many stories of the past with sad endings, such as The Eternal Man, etc. This is Bloch's best in AMAZING to date, and one of his best stories ever published

(Continued on page 138)

MONTHLY MERIT AWARD

Each month, until further notice, AMAZING STORIES will pay to the author of the leading story in that issue, as determined by the readers' vote of popularity, a bonus of \$50.00 in addition to our regular rate. In this way we will reward the authors of exceptional stories, and provide an additional incentive to create top-notch fiction for our readers.

When you have read the stories in this issue, fill out the coupon below, which has been so arranged that its removal will not cause deletion of any story or article. Please fill out both sides. Number the stories in the order in which you rank them, from 1 to 7. These votes will be tabulated, and the results announced in the second following issue.

CLIP THIS COUPON AND FILL OUT BOTH SIDES

AMAZING STORIES
608 S. Dearborn St.
Chicago, Illinois

In my opinion the stories in the April issue of AMAZING STORIES rank as follows:

	No. Here
WORLD WITHOUT WOMEN by Thornton Ayre	_____
MADNESS ON LUNA by R. R. Winterbotham	_____
THE DEADLY PAINT OF HARLEY GALE by Ed Earl Repp	_____
INVISIBLE INVASION by Frederic Arnold Kummer, Jr.	_____
MARTIAN AVENGER by Polton Cross	_____
THE FLAME FROM NOWHERE by Eando Binder	_____
REVOLUTION ON VENUS by Bradner Buckner	_____

Name

Street

City

in scientific fields. These two stories, Marooned Off Vesta, and The Strange Flight of Richard Clayton make the March issue the best since the new mag's inception.

Vengeance From the Void was the next best, and also was above the somewhat indefinable thing called average. Trapped by Telepathy was only ordinary, and the City That Walked was very good, but was somewhat overshadowed by the two stories I mentioned as best.

Stories in order of Quality: Strange Flight of R. C., Marooned Off Vesta, Vengeance From Void, The City That Walked, Valley of Invisible Men, Trapped by Telepathy, Raid From Mars.

I liked the enlarged reader's column, and suggest that Paul Rowberger's proposed contents block be adopted as the cover title, minus the word "CONTENTS." Then you would have something to talk about.

*T. Bruce Yerke,
1207½ N. Tamarind Ave.,
Hollywood, California.*

Sirs:

When the first Ziff-Davis AMAZING appeared on the newsstands last year, I purchased it as I have always purchased the old AMAZINGS. When I had time to read it I saw that you had injected life into the mag, but I also saw that there was something missing, something hard to describe.

Now I know what it is. The matured, cultured atmosphere had disappeared and was replaced by juvenile delights. Morey was gone. While I did not care for his inside illustrations, I can say that there was nothing absurd about them. His covers were excellent, especially the ones illustrating the James series.

Now the cover illustration has gawdy scenes and fantastic creatures. The illustrations are far too

dark, and very flat. Detail is missing and the figures are too large and disproportionate. And the stories (with a few exceptions) were lousy.

But now, the March issue is out and I must take back what I said previously about the stories. They are decidedly better. But the illustrations are still dark, and flat, and the cover is still absurd. But, as a whole, the magazine is much better, and promises much improvement.

About the "Strange Flight of Richard Clayton" by Robert Bloch: This story was fascinating. I could think of nothing else hours after I finished reading it. It was so disturbing that I am still thinking about it. The new idea was really swell.

*Leonard Kramer,
228 East Ogleshorpe Avenue,
Savannah, Georgia.*

CORRESPONDENCE CORNER

Jack Murtagh, 625 Nelson Street, Hastings, New Zealand, wants to procure AMAZING STORIES, Vol. 1, Nos. 1, 2, 3, 4, and 9. Vol. 2, Nos. 3 and 4. Quarterly Vol. 1 No. 1. . . . John G. Todd, Chelsea-on-Hudson New York, would like pen pals. . . . William Schrage, 74 Newman Street, So. Boston, Mass., wants pen pals from United States and foreign countries. . . . Abraham Oshinsky, 2855 West 25th Street, Brooklyn, N. Y., wants readers in New York who are interested in helping him organize an astronomy club to contact him at once. . . . Ted Hodges, 1007 Broadway, North Bergen, New Jersey, wants correspondents from all over the world. . . . Robert Schleip, 245 Fountain Ave., Dayton, Ohio, has complete set of AMAZING STORIES from April, 1926 to October, 1938, which he wishes to sell.

The editors of AMAZING STORIES would appreciate your answers to the following questions. They may serve to express your desires, and enable us to better anticipate your likes and dislikes in presenting future stories and articles. Check or fill in answers.

- A. I would like to see the following qualities in stories: 1. Humor. 2. More science. 3. Less science. 4. Action. 5. Adventure. 6. Romance. 7. Strong plot. 8. More characterization. 9. Stories laid on earth. 10. Interplanetary stories. 11. Fantasy.
- B. Do you approve of our present system of science footnotes?
- C. I would like to see stories by (name your favorite authors)
- D. I would like to have: 1. More stories. 2. Longer stories. 3. Shorter stories. 4. Serials. 5. More departments. 6. Fact articles. 7. All stories complete.
- E. I would rather have back-cover scenes with diagrams and arrows indicating the interesting points; with the scene painted in pictorial fashion
- F. I prefer the story titles worked into the illustration.; set up in type
- G. I like double-spread illustrations; single-page illustrations; minor spots
- H. Your most interesting feature is.
- I. Your least interesting featuring is.
- J. Do you think there are too many letters in "Discussions"? Too few?



(Continued from page 4)

Miles discovered that it was possible to powerfully amplify the charges in these pieces of foil (picked up by the magnetic field of the eyehall itself) and thus strengthen them sufficiently to measure them. He discovered that most eyes are charged with an average of two-thousandths of a volt, and that this charge remains constant.

Carrying his research still further, he discovered that the lens of the eye carried the positive charge, and the retina, the negative charge.

According to Dr. Miles' theory, it is this amazing electrical power of the eyes that enables birds to fly with such unerring accuracy in their yearly migrations over thousands of miles. It is simply a fact, he says, that these birds utilize the earth's magnetic pole in exactly the same manner we use a compass, except that their compasses are their eyes.

Further proof is presented, he maintains, by the already well-known fact that homing pigeons, released near powerful radio station antennae, seem bewildered, and lose their homing instinct.

It seems probable, considering this new discovery, that there are human beings also, with powers of orientation which prevent them from becoming lost, due to possessing a stronger charge in the living batteries of their eyes. Your editor has known several persons who seem never to be in doubt as to which direction is north.

Truly, an amazing miracle is the human body.

* * *

THE rocket-propelled automobile has been built! A Buffalo, N. Y. man, Peter Vacca, has designed and constructed a speed auto powered with an eight cylinder V-type gasoline engine capable of sending the car along at a speed of 115 miles per hour, using a super-charger, at which speed the rockets, mounted in the rear, go into action, boosting the speed to an as yet undetermined maximum. The car is super-streamlined, and is literally an airplane on wheels, since it has a rudder, stabilizers, and a plane fuselage, although it has no wings. It boasts a radio mast and eight round ports, giving it a peculiarly futuristic effect, such as imaginative artists have given to space-ships. It is said that this rocket automobile cost in the neighborhood of \$16,000.

* * *

WE have all seen the northern lights, the aurora borealis. This phenomenon, which lights up the far-north country quite brilliantly is the result of solar rays reacting on the gases of the upper atmosphere. Now, with the experiments of Professor V. A. Bailey, of the University of Sydney, Australia, it becomes a phenomenon of vast importance to the future.

Declares Prof. Bailey, it is a quite possible feat to create an artificial aurora at any desired portion of the earth's surface, to provide artificial illumination in that area, comparable to very strong moonlight. It is a step, he says, toward the ultimate creation of daylight illumination at night, over an entire country.

His method is amazing, in that it calls for the broadcasting of a beam of powerful radio waves to a height of fifty miles or more. Under this bombardment, he maintains, the rarefied gases of the upper atmosphere will react just as they do from solar radiations, and glow with a brilliance comparable to the famous aurora.

The color of this artificial aurora would be blue, or green, and its brilliance would be such that street-lighting would no longer be necessary, and visibility conditions on the highways would be perfectly satisfactory for motoring.

Prof. Bailey points out that several radio stations already have the power necessary to broadcast this powerful beam of radio waves, since 500-kilowatts is sufficient. He says, however, that special antenna would be necessary, consisting of 800 horizontal antennas suspended at 164 feet, so as to form a checkerboard a mile and a quarter square. The result of such a "broadcast" of radio waves would be a large circular area of illumination at a height of 50 miles, which would shed its light for hundreds of miles.

* * *

QUITE a few of our readers have requested further information on our article "The Fountain of Youth is Frozen." Full information concerning this was published by the Philadelphia Enquirer in 1937, and tells the complete story of Anna Broog and her amazing 42 day sleep in a frigid coffin in a frozen state. The experiment was conducted by Professor Peter de Lampl, in his laboratory at the University of Leyden, in Amsterdam. It was an actual experiment, and really occurred, and its results were beneficial.

* * *

IF you are an amateur astronomer, and you have constructed a telescope, the easiest way to determine its power is to focus it on a brick wall. By keeping both eyes open, you will find that with practice, you can concentrate on both the vision of the wall as seen by the eye not peering through the telescope, and the vision seen by the eye placed to the eyepiece. If the magnified brick seen through the instrument is as large as ten of the unmagnified, as seen by your normal vision, the power of the telescope is ten. However, in order to get the correct value, the telescope should be placed at least 100 feet from the wall.

* * *

NEXT month we'll have more to say about things not generally known, and we remind you again to watch for an amazing announcement of interest to every science fiction fan.

ANSWERS TO SCIENCE QUIZ

(Quiz on Page 120)

SCRAMBLED SCIENCE TERMS

1. NEON.
2. AMMONIA.
3. SILVER.
4. ASBESTOS.
5. CORDITE.

WHAT IS IT?

Having observed the complete process, you unhesitatingly call it a lighted candle.

STRIKE OUT THE WORD THAT DOES NOT CONFORM

1. Sulphuric acid. All the others are carbon compounds.
2. Hydrogen. All the others are *inert* gases.
3. Stratosphere. This one is a portion of Earth's atmosphere, the others belong to the sun.
4. Luna. All the others are satellites of Saturn.
5. Aluminum. This is the only light metal in the group. All others are extremely heavy.

TRUE OR FALSE?

1. True.
2. False. The London Zoo has a tigrion, an animal which had a lioness for a mother and a tiger for a father. It was bred and presented to the zoo by the Maharajah of Nawanagar.
3. False. Some eagles, crows, ravens and swans live a century and more.
4. False. The days are lengthening, not shortening.
5. True. The first quarter has less dark area than the third quarter.
6. True. It appeared in 1759, 1835, and 1910. It will appear again in 1985.
7. True. This comet had a head 250,000 miles

across. It appeared in 1858 and will not reappear until 2000 years have passed.

8. False. The north magnetic pole attracts the north end of the needle, while the south magnetic pole attracts the opposite end. There is no reversal of the needle on crossing the equator.

9. False. These chains ground static electricity collected by moving objects, and caused by friction in filling and emptying tanks. Thereby danger of explosion from static sparks is eliminated.

10. True.

11. True. Sea water weighs $1\frac{1}{4}$ pounds more per cubic foot than fresh water.

12. False. Gasoline has no definite freezing point. It stiffens slowly like wax at temperatures far below those of the Arctic.

13. True.

14. True.

15. True.

SCIENCE TEST

1. Palmyra palm. It is put to more than 800 uses.
2. Red. Luther Burbank said that more than half of the world's flowers are red or some shade of red.
3. Kelp. This sea weed reaches a length of 1500 feet.
4. Mexico.
5. Inhabitants of Syria.
6. The tombs of Nikko (Japan).
7. Amorphous.
8. A white man with one quarter negro blood.
9. 3.28 feet (or one meter).
10. Silver.
11. Honolulu. Its northern ward is Midway Island, 1200 miles from the city hall, its most southern is Palmyra Island, 1000 miles south.
12. 20 years.

MILITIAMEN OF THE SKY

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MARCH ISSUE
POPULAR AVIATION ★

FUTURE SKY FIGHTER

(SEE BACK COVER)

Conceived and Designed by H. W. McCauley

The Sky Fighter shown in full color on our back cover this month is the result of the combined opinions of the artist, the aviation experts of *Popular Aviation*, and your editors. It is a fighter designed for but one single purpose, the interception and destruction of approaching fleets of giant bombers, such as are now being developed for future warfare. For every offense there must be a defense. These speedy mites are our conception of the most likely form that defense will take.

There were several cardinal points to be taken into consideration in designing this interceptor. First, the matter of speed. When news of an approaching bombing fleet is received, this fighter must advance at great speed to prevent the bombers from reaching their objective. To attain this we have developed a tear drop ship which is mostly all wing, with fuselage ample only for its single occupant, its power plant, and its armament. The most efficient type of propeller is a pusher type, and a four-bladed propeller offers greater effect at high speed. These blades are of variable pitch, one of the newest developments in getting the most out of them.

The accompanying sketch shows the basic design of this uniquely located propeller, and its operation. Radical, and unfeasible, you say? Wrong again. In 1918, the Gallaudet D-4 light bomber seaplane used a pusher propeller located in this position, and driven by the same means. Even at that early date, a speed of 176 miles per hour was attained. With present-day power plants the speed would be more than adequate for our purpose.

The second feature we considered was the matter of armament. Surely we must have a deadly weapon to destroy these monster bombers. Already there have been attempts at mounting cannon in planes, and a one-inch cannon, even of the rapid-firing type, is not only plausible, but an accomplished fact. Some American bombers carry a 37 mm. cannon (experimentally) at this writing. With its speed and maneuverability this Sky Fighter could easily place a shell at a vital point and be gone before any defense could be made. Also, there would be the usual rapid fire machine guns in the wings, firing incendiary and explosive bullets.

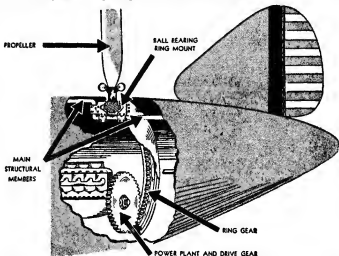
The third feature, necessary for both effective offense and

defense, is perfect visibility for the pilot. The visibility range of this ship would allow the pilot to see in any direction whatsoever, from his position. He does not possess even the blind spot of the present-day pursuit ship, below and behind.

The Sky Fighters would be used for defense and interception only. They would not be attackers. The reason is simple. They would have none of the flying range of the large ship. They would be limited to a certain radius from their base, however, sufficient to intercept the enemy far from its objective.

Conceive of a fleet of twenty bombers approaching. They are giant things, with a speed of 210 miles per hour. But their approach cannot be unseen, unheard, undetected by the advance warning units of the defense. News of their coming reaches the city to be attacked. A fleet of perhaps five of these tiny Sky Fighters zooms upward, speeding toward the bombers at 330 miles per hour. One hundred or more miles away they intercept the enemy, and dive down from the heights to a stunning surprise attack.

Defending gunners spring to their machine gun turrets on the bombers and try to shoot down the angry wasps darting about them. But the giant bombers cannot maneuver. They must continue steadily onward. Cleverly the Sky Fighters keep out of gun range of their victims, and swooping about, place shells in vulnerable places. Before fifty miles more are covered, the last bomber is shot down, without more than a lucky chance at getting one of their tormentors.



This sketch shows graphically how the Future Sky Fighter power plant would operate. This principle has been proved practical by the Gallaudet D-4, light bomber, invented in 1918.

Who Was Their Master?



• John Russell Fearn's finest science-mystery will baffle you. Whose guiding hand lay behind the robots of the buried city? For centuries they slept, these buried two hundred—what was their mission when they were to awake? What strange menace of the past did they fear? Whose was the vacant glass case?

The Curse of Montezuma

What caused the strange fever that killed Explorer Ruskin? What danger was it that Lucas and Lana Garlan feared so greatly? What weird force caused the moon to waver in the sky and ruin Dr. John Hale's photos of the eclipse? Let Ed Earl Repp reveal the amazing truth to you.



Where Is Roger Davis?



On August 26, 1938, Roger Davis vanished. He has not been seen since. Does his disappearance really mean that Martians DID visit the Earth during the period between July 25th and August 26th? Who REALLY started the holocaust of the Cherry Street fire on August 12th? Did New York pay unknowing host to men from Mars, only to be panic stricken by the now famous though fictitious Orson Welles broadcast? Has David V. Reed, author of this sensational story, uncovered something to stagger the imagination?

The above questions and their answers will make you gasp with amazement.

OTHER FEATURES

FULL COLOR BACK COVER

QUESTIONS AND ANSWERS

RIDDLES OF SCIENCE

MEET THE AUTHORS

THE OBSERVATORY

SCIENCE QUIZ

DISCUSSIONS

BIG MAY ISSUE

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ON SALE MARCH 10th

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Foreword by Frank Hawks

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Enjoy BEAUTIFUL Natural-Looking FALSE TEETH

LOWEST PRICES
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MONEY

60
Days'
Trial



Let 1939 Bring You Mouth-Comfort!

FIT-RITE TEETH BY MAIL

"We make to measure, to fit you individually—BY MAIL—the World's No. 1 FIT-RITE Dental Plates for men and women—from an impression of your mouth," taken quickly and easily by our FIT-RITE improved method. We have thousands of enthusiastic, satisfied customers all over the country wearing high-grade teeth we made for them by mail at sensible prices.

AT ROCK BOTTOM PRICES

We stick to depression's lowest prices. If you have ever bought false teeth before, or if you find out what others have paid for theirs, you will be astounded when you see how little ours will cost you! By reading our catalog, you will learn how to save half or more on dental plates for yourself. Try "A-1" teeth at prices that people not blessed with money can afford to pay. Monthly payments possible. You can afford our best NOW.

ON 60 DAYS' TRIAL

Make us prove you can't beat our fit, work or price. Wear our teeth on trial for as long as 60 days. Then, if you are not perfectly satisfied with them, they will not cost you a cent. But if you are delighted with the fit and your improved looks, tell your friends and relatives. We build our business on satisfied customers. We know no other way. And our business is growing.

WITH MONEY-BACK GUARANTEE OF SATISFACTION

No money need be risked. We guarantee that if you are not completely satisfied with any teeth we make for you; then, any time within 60 days, we will immediately refund every cent you have paid. We take your word. We let you be the sole judge.

Try



TO EAT WITH PLEASURE . . . TO
LAUGH HEARTILY . . . TO LOOK YEARS
YOUNGER . . . TO GUARD YOUR HEALTH
. . . TO SPEAK DISTINCTLY . . . TO
ENJOY LIFE!

QUIT wearing teeth that clack; that constantly slip off your gums; that are not much good to chew with; that broadcast their glaring falseness to the world every time you open your mouth. Life is too short, health too precious, looks are too important! For appearance, for health, for lifetime comfort, prefer FIT-RITE FALSE TEETH!

Our dentures are set with life-like, pearly-white, genuine, porcelain teeth; constructed from finest materials, with expert workmanship, to give life-long service. We make all styles of plates. A dentist who has had many years' experience in making and fitting dental plates, that look right and fit right, supervises the work on each plate.

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Impression material, catalog with new low prices, and easy directions. Don't put this off. Do it TODAY! CLIP COUPON OR WRITE—

The only place you can obtain FIT-RITE FALSE TEETH

We also repair and reproduce old plates—48-hour service.

UNITED STATES DENTAL COMPANY

The World's Largest Laboratory Making Dental Plates Only

Exclusive makers of FIT-RITE False Teeth—C. T. Johnson, Pres.

1555 Milwaukee Ave., Dept. 313X, CHICAGO, ILL.

PROOF!

Thousands of grateful letters come to us unsolicited.

100% SATISFIED

Gentlemen: "I am 100% satisfied with my teeth. They fit perfectly. I will at any time recommend your Company." A. J. Prizeman, Regina, Sask., Canada.

FIT AND COMFORT

Gentlemen: "I feel that I owe you a few lines of praise. This is the fourth plate I have worn in 37 years and must say it is the first one that I ever had that fits exactly. I never have them out of my mouth except while cleaning them." Mrs. F. L. Stevens, DePauw, Indiana.

A BEAUTIFUL SET

Gentlemen: "Received my set . . . this morning . . . material is beautiful, workmanship excellent and a fine fit . . . very well satisfied. Success to you in the future." Ruel L. Hopkins, 10th Air Base, Bantou, Ill.

REMARKABLE WORK BY MAIL

Gentlemen: "Received my dental plates. They could not fit any better. . . . It is remarkable how you can make such fits through the mail." A. E. Clapp, Lipan, Texas.

Sirs: "A friend who has worked in a dental office for years looked at mine and said, 'You certainly have a good fit.'" G. E. Long, Noble, Okla.

BEST-FITTING EVER

Sirs: "It is the best-fitting set I have ever had and I have had several." H. M. Clark, Highland Park, New Jersey.

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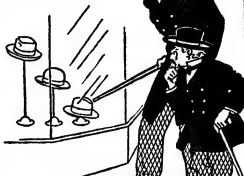
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Is it 'cause we slow distill
and never rush?"



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Yes, Mr. Moore,
That's the reason many thousands
choose our brand..."



"Coast-to-Coast and Gulf-to-Border,
M & M is what they order,
It's a royal-tasting whiskey,
at a price that gets a hand!"



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you'll like Mattingly & Moore.

You see, M & M is ALL whiskey
... every drop in every bottle.
More, M & M is a blend of straight
whiskies... the kind of whiskey

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Ask for M & M at your favor-
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mellow flavor that slow distilling
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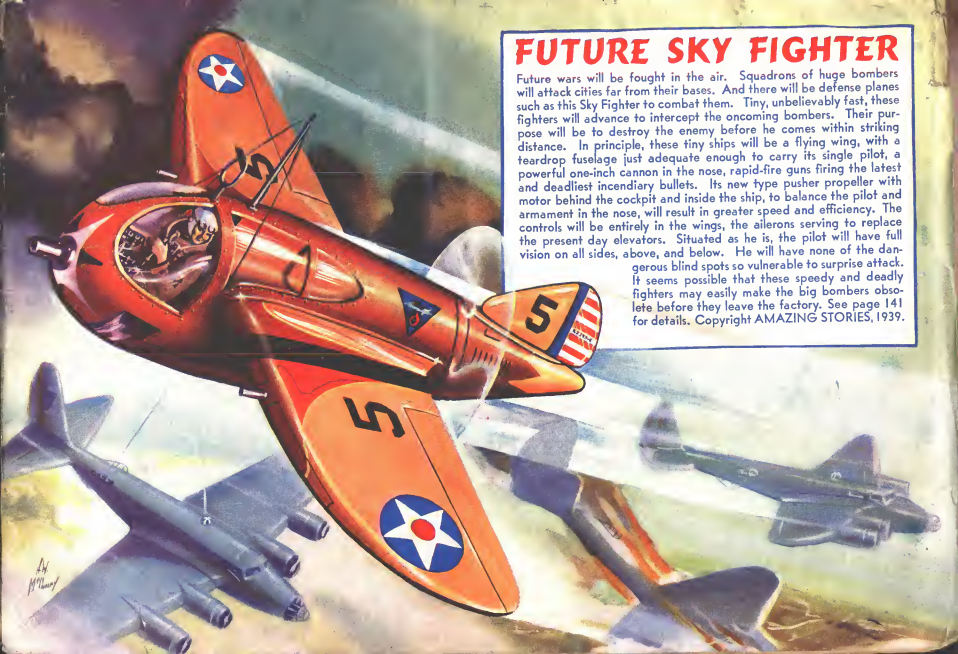
RIPLEY'S EXPLANATION: \$140,000,000.00 Train! John T. Gaffney, veteran New York Central engineer, pilots the 20th Century Limited — world renowned train — which has earned over \$140,000,000.00 in its 36 years of service between Chicago and New York. Mr. Gaffney says, "Due to Lee Tailored Sizes my Lee Overalls run the 20th Century a close race for real modern comfort! The extra wear I get from Jelt Denim saves me real money too!"

Carries Man In Hip Pockets! On a lost wager, James Matthews carried Lambert Thomas around the block in the hip pockets of his Lee Overalls. The Lee Jelt Denim and the heavy seams did not even rip or tear under this 155 lb. strain—proof of the superior sturdiness of Lee Overalls... Believe It Or Not!

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FUTURE SKY FIGHTER

Future wars will be fought in the air. Squadrons of huge bombers will attack cities far from their bases. And there will be defense planes such as this Sky Fighter to combat them. Tiny, unbelievably fast, these fighters will advance to intercept the oncoming bombers. Their purpose will be to destroy the enemy before he comes within striking distance. In principle, these tiny ships will be a flying wing, with a teardrop fuselage just adequate enough to carry its single pilot, a powerful one-inch cannon in the nose, rapid-fire guns firing the latest and deadliest incendiary bullets. Its new type pusher propeller with motor behind the cockpit and inside the ship, to balance the pilot and armament in the nose, will result in greater speed and efficiency. The controls will be entirely in the wings, the ailerons serving to replace the present day elevators. Situated as he is, the pilot will have full vision on all sides, above, and below. He will have none of the dangerous blind spots so vulnerable to surprise attack. It seems possible that these speedy and deadly fighters may easily make the big bombers obsolete before they leave the factory. See page 141 for details. Copyright AMAZING STORIES, 1939.



Another scan
by
cape1736

